

# SEQUENCE LISTING

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<120> CHEMOKINE-BINDING PROTEIN AND METHODS OF  
USE

<130> BIOBANK.009CP1

<140> Unknown

<141> 2003-06-19

<150> 10/317,832

<151> 2002-12-10

<150> 60/341,997

<151> 2001-12-18

<160> 292

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 74

<212> PRT

<213> Artificial Sequence

<220>

<223> THAP domain consensus

<221> UNSURE

<222> 2-5, 7-21, 23-31, 33-49, 51-52, 55-73

<223> Xaa = any of the twenty amino acids

<400> 1

Cys	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15			
Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Trp	
			20					25						30			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			35				40						45				
Xaa	Cys	Xaa	Xaa	His	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
	50					55							60				
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro							
65							70										

<210> 2

<211> 81

<212> PRT

<213> Artificial Sequence

<220>

<223> THAP domain consensus

<221> UNSURE

<222> 3-4, 6-9, 11-21, 24, 27-35, 37-41, 43-53, 56, 59-62, 64-71, 74-75, 80

<223> Xaa = any of the twenty amino acids

<400> 2

Met	Pro	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
1				5					10					15		
Xaa	Xaa	Xaa	Xaa	Xaa	Phe	His	Xaa	Phe	Pro	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
			20					25					30			
Xaa	Xaa	Xaa	Trp	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
		35					40					45				
Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Ser	Xaa	His	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Phe	Xaa
	50					55				60						
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Leu	Lys	Xaa	Xaa	Ala	Val	Pro	Thr	Xaa	
65				70					75						80	
Phe																

<210> 3

<211> 213

<212> PRT

<213> Homo sapiens

<400> 3

Met	Val	Gln	Ser	Cys	Ser	Ala	Tyr	Gly	Cys	Lys	Asn	Arg	Tyr	Asp	Lys	
1				5					10					15		
Asp	Lys	Pro	Val	Ser	Phe	His	Lys	Phe	Pro	Leu	Thr	Arg	Pro	Ser	Leu	
			20					25					30			
Cys	Lys	Glu	Trp	Glu	Ala	Ala	Val	Arg	Arg	Lys	Asn	Phe	Lys	Pro	Thr	
		35					40					45				
Lys	Tyr	Ser	Ser	Ile	Cys	Ser	Glu	His	Phe	Thr	Pro	Asp	Cys	Phe	Lys	
	50					55					60					
Arg	Glu	Cys	Asn	Asn	Lys	Leu	Leu	Lys	Glu	Asn	Ala	Val	Pro	Thr	Ile	
65					70					75					80	
Phe	Leu	Cys	Thr	Glu	Pro	His	Asp	Lys	Lys	Glu	Asp	Leu	Leu	Glu	Pro	
			85						90					95		
Gln	Glu	Gln	Leu	Pro	Pro	Pro	Pro	Leu	Pro	Pro	Pro	Val	Ser	Gln	Val	
			100					105					110			
Asp	Ala	Ala	Ile	Gly	Leu	Leu	Met	Pro	Pro	Leu	Gln	Thr	Pro	Val	Asn	
		115					120					125				
Leu	Ser	Val	Phe	Cys	Asp	His	Asn	Tyr	Thr	Val	Glu	Asp	Thr	Met	His	
	130					135					140					
Gln	Arg	Lys	Arg	Ile	His	Gln	Leu	Glu	Gln	Gln	Val	Glu	Lys	Leu	Arg	
145					150					155					160	
Lys	Lys	Leu	Lys	Thr	Ala	Gln	Gln	Arg	Cys	Arg	Arg	Gln	Glu	Arg	Gln	
			165						170					175		
Leu	Glu	Lys	Leu	Lys	Glu	Val	Val	His	Phe	Gln	Lys	Glu	Lys	Asp	Asp	
		180						185					190			
Val	Ser	Glu	Arg	Gly	Tyr	Val	Ile	Leu	Pro	Asn	Asp	Tyr	Phe	Glu	Ile	
		195					200					205				
Val	Glu	Val	Pro	Ala												
		210														

<210> 4  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 4  
 Met Pro Thr Asn Cys Ala Ala Ala Gly Cys Ala Thr Thr Tyr Asn Lys  
 1 5 10 15  
 His Ile Asn Ile Ser Phe His Arg Phe Pro Leu Asp Pro Lys Arg Arg  
 20 25 30  
 Lys Glu Trp Val Arg Leu Val Arg Arg Lys Asn Phe Val Pro Gly Lys  
 35 40 45  
 His Thr Phe Leu Cys Ser Lys His Phe Glu Ala Ser Cys Phe Asp Leu  
 50 55 60  
 Thr Gly Gln Thr Arg Arg Leu Lys Met Asp Ala Val Pro Thr Ile Phe  
 65 70 75 80  
 Asp Phe Cys Thr His Ile Lys Ser Met Lys Leu Lys Ser Arg Asn Leu  
 85 90 95  
 Leu Lys Lys Asn Asn Ser Cys Ser Pro Ala Gly Pro Ser Asn Leu Lys  
 100 105 110  
 Ser Asn Ile Ser Ser Gln Gln Val Leu Leu Glu His Ser Tyr Ala Phe  
 115 120 125  
 Arg Asn Pro Met Glu Ala Lys Lys Arg Ile Ile Lys Leu Glu Lys Glu  
 130 135 140  
 Ile Ala Ser Leu Arg Arg Lys Met Lys Thr Cys Leu Gln Lys Glu Arg  
 145 150 155 160  
 Arg Ala Thr Arg Arg Trp Ile Lys Ala Thr Cys Leu Val Lys Asn Leu  
 165 170 175  
 Glu Ala Asn Ser Val Leu Pro Lys Gly Thr Ser Glu His Met Leu Pro  
 180 185 190  
 Thr Ala Leu Ser Ser Leu Pro Leu Glu Asp Phe Lys Ile Leu Glu Gln  
 195 200 205  
 Asp Gln Gln Asp Lys Thr Leu Leu Ser Leu Asn Leu Lys Gln Thr Lys  
 210 215 220  
 Ser Thr Phe Ile  
 225

<210> 5  
 <211> 239  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Met Pro Lys Ser Cys Ala Ala Arg Gln Cys Cys Asn Arg Tyr Ser Ser  
 1 5 10 15  
 Arg Arg Lys Gln Leu Thr Phe His Arg Phe Pro Phe Ser Arg Pro Glu  
 20 25 30  
 Leu Leu Lys Glu Trp Val Leu Asn Ile Gly Arg Gly Asn Phe Lys Pro  
 35 40 45  
 Lys Gln His Thr Val Ile Cys Ser Glu His Phe Arg Pro Glu Cys Phe  
 50 55 60  
 Ser Ala Phe Gly Asn Arg Lys Asn Leu Lys His Asn Ala Val Pro Thr  
 65 70 75 80  
 Val Phe Ala Phe Gln Asp Pro Thr Gln Gln Val Arg Glu Asn Thr Asp  
 85 90 95

Pro	Ala	Ser	Glu	Arg	Gly	Asn	Ala	Ser	Ser	Ser	Gln	Lys	Glu	Lys	Val
			100					105					110		
Leu	Pro	Glu	Ala	Gly	Ala	Gly	Glu	Asp	Ser	Pro	Gly	Arg	Asn	Met	Asp
		115					120					125			
Thr	Ala	Leu	Glu	Glu	Leu	Gln	Leu	Pro	Pro	Asn	Ala	Glu	Gly	His	Val
		130				135					140				
Lys	Gln	Val	Ser	Pro	Arg	Arg	Pro	Gln	Ala	Thr	Glu	Ala	Val	Gly	Arg
145					150				155						160
Pro	Thr	Gly	Pro	Ala	Gly	Leu	Arg	Arg	Thr	Pro	Asn	Lys	Gln	Pro	Ser
			165						170					175	
Asp	His	Ser	Tyr	Ala	Leu	Leu	Asp	Leu	Asp	Ser	Leu	Lys	Lys	Lys	Leu
		180					185						190		
Phe	Leu	Thr	Leu	Lys	Glu	Asn	Glu	Lys	Leu	Arg	Lys	Arg	Leu	Gln	Ala
		195				200					205				
Gln	Arg	Leu	Val	Met	Arg	Arg	Met	Ser	Ser	Arg	Leu	Arg	Ala	Cys	Lys
	210					215					220				
Gly	His	Gln	Gly	Leu	Gln	Ala	Arg	Leu	Gly	Pro	Glu	Gln	Gln	Ser	
225					230					235					

<210> 6  
 <211> 577  
 <212> PRT  
 <213> Homo sapiens

<400> 6

Met	Val	Ile	Cys	Cys	Ala	Ala	Val	Asn	Cys	Ser	Asn	Arg	Gln	Gly	Lys
1			5					10					15		
Gly	Glu	Lys	Arg	Ala	Val	Ser	Phe	His	Arg	Phe	Pro	Leu	Lys	Asp	Ser
		20					25					30			
Lys	Arg	Leu	Ile	Gln	Trp	Leu	Lys	Ala	Val	Gln	Arg	Asp	Asn	Trp	Thr
		35				40					45				
Pro	Thr	Lys	Tyr	Ser	Phe	Leu	Cys	Ser	Glu	His	Phe	Thr	Lys	Asp	Ser
	50				55					60					
Phe	Ser	Lys	Arg	Leu	Glu	Asp	Gln	His	Arg	Leu	Leu	Lys	Pro	Thr	Ala
65			70						75						80
Val	Pro	Ser	Ile	Phe	His	Leu	Thr	Glu	Lys	Lys	Arg	Gly	Ala	Gly	Gly
			85					90					95		
His	Gly	Arg	Thr	Arg	Arg	Lys	Asp	Ala	Ser	Lys	Ala	Thr	Gly	Gly	Val
		100					105					110			
Arg	Gly	His	Ser	Ser	Ala	Ala	Thr	Gly	Arg	Gly	Ala	Ala	Gly	Trp	Ser
	115					120					125				
Pro	Ser	Ser	Ser	Gly	Asn	Pro	Met	Ala	Lys	Pro	Glu	Ser	Arg	Arg	Leu
	130				135						140				
Lys	Gln	Ala	Ala	Leu	Gln	Gly	Glu	Ala	Thr	Pro	Arg	Ala	Ala	Gln	Glu
145				150					155						160
Ala	Ala	Ser	Gln	Glu	Gln	Ala	Gln	Gln	Ala	Leu	Glu	Arg	Thr	Pro	Gly
			165					170						175	
Asp	Gly	Leu	Ala	Thr	Met	Val	Ala	Gly	Ser	Gln	Gly	Lys	Ala	Glu	Ala
		180					185					190			
Ser	Ala	Thr	Asp	Ala	Gly	Asp	Glu	Ser	Ala	Thr	Ser	Ser	Ile	Glu	Gly
	195					200					205				
Gly	Val	Thr	Asp	Lys	Ser	Gly	Ile	Ser	Met	Asp	Asp	Phe	Thr	Pro	Pro
	210				215					220					
Gly	Ser	Gly	Ala	Cys	Lys	Phe	Ile	Gly	Ser	Leu	His	Ser	Tyr	Ser	Phe
225				230					235						240
Ser	Ser	Lys	His	Thr	Arg	Glu	Arg	Pro	Ser	Val	Pro	Arg	Glu	Pro	Ile

				245					250					255			
Asp	Arg	Lys	Arg	Leu	Lys	Lys	Asp	Val	Glu	Pro	Ser	Cys	Ser	Gly	Ser		
			260					265						270			
Ser	Leu	Gly	Pro	Asp	Lys	Gly	Leu	Ala	Gln	Ser	Pro	Pro	Ser	Ser	Ser		
		275					280						285				
Leu	Thr	Ala	Thr	Pro	Gln	Lys	Pro	Ser	Gln	Ser	Pro	Ser	Ala	Pro	Pro		
	290					295					300						
Ala	Asp	Val	Thr	Pro	Lys	Pro	Ala	Thr	Glu	Ala	Val	Gln	Ser	Glu	His		
305					310					315					320		
Ser	Asp	Ala	Ser	Pro	Met	Ser	Ile	Asn	Glu	Val	Ile	Leu	Ser	Ala	Ser		
				325					330					335			
Gly	Ala	Cys	Lys	Leu	Ile	Asp	Ser	Leu	His	Ser	Tyr	Cys	Phe	Ser	Ser		
		340						345					350				
Arg	Gln	Asn	Lys	Ser	Gln	Val	Cys	Cys	Leu	Arg	Glu	Gln	Val	Glu	Lys		
	355						360					365					
Lys	Asn	Gly	Glu	Leu	Lys	Ser	Leu	Arg	Gln	Arg	Val	Ser	Arg	Ser	Asp		
	370					375					380						
Ser	Gln	Val	Arg	Lys	Leu	Gln	Glu	Lys	Leu	Asp	Glu	Leu	Arg	Arg	Val		
385				390						395					400		
Ser	Val	Pro	Tyr	Pro	Ser	Ser	Leu	Leu	Ser	Pro	Ser	Arg	Glu	Pro	Pro		
				405					410					415			
Lys	Met	Asn	Pro	Val	Val	Glu	Pro	Leu	Ser	Trp	Met	Leu	Gly	Thr	Trp		
		420						425					430				
Leu	Ser	Asp	Pro	Pro	Gly	Ala	Gly	Thr	Tyr	Pro	Thr	Leu	Gln	Pro	Phe		
	435					440						445					
Gln	Tyr	Leu	Glu	Glu	Val	His	Ile	Ser	His	Val	Gly	Gln	Pro	Met	Leu		
	450					455					460						
Asn	Phe	Ser	Phe	Asn	Ser	Phe	His	Pro	Asp	Thr	Arg	Lys	Pro	Met	His		
465				470					475					480			
Arg	Glu	Cys	Gly	Phe	Ile	Arg	Leu	Lys	Pro	Asp	Thr	Asn	Lys	Val	Ala		
				485					490					495			
Phe	Val	Ser	Ala	Gln	Asn	Thr	Gly	Val	Val	Glu	Val	Glu	Glu	Gly	Glu		
			500				505						510				
Val	Asn	Gly	Gln	Glu	Leu	Cys	Ile	Ala	Ser	His	Ser	Ile	Ala	Arg	Ile		
	515						520					525					
Ser	Phe	Ala	Lys	Glu	Pro	His	Val	Glu	Gln	Ile	Thr	Arg	Lys	Phe	Arg		
	530					535					540						
Leu	Asn	Ser	Glu	Gly	Lys	Leu	Glu	Gln	Thr	Val	Ser	Met	Ala	Thr	Thr		
545					550					555					560		
Thr	Gln	Pro	Met	Thr	Gln	His	Leu	His	Val	Thr	Tyr	Lys	Lys	Val	Thr		
				565					570					575			

Pro

<210> 7  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

<400> 7  
 Met Pro Arg Tyr Cys Ala Ala Ile Cys Cys Lys Asn Arg Arg Gly Arg  
 1 5 10 15  
 Asn Asn Lys Asp Arg Lys Leu Ser Phe Tyr Pro Phe Pro Leu His Asp  
 20 25 30  
 Lys Glu Arg Leu Glu Lys Trp Leu Lys Asn Met Lys Arg Asp Ser Trp  
 35 40 45

Val	Pro	Ser	Lys	Tyr	Gln	Phe	Leu	Cys	Ser	Asp	His	Phe	Thr	Pro	Asp
50						55					60				
Ser	Leu	Asp	Ile	Arg	Trp	Gly	Ile	Arg	Tyr	Leu	Lys	Gln	Thr	Ala	Val
65					70					75					80
Pro	Thr	Ile	Phe	Ser	Leu	Pro	Glu	Asp	Asn	Gln	Gly	Lys	Asp	Pro	Ser
				85					90					95	
Lys	Lys	Lys	Ser	Gln	Lys	Lys	Asn	Leu	Glu	Asp	Glu	Lys	Glu	Val	Cys
			100					105					110		
Pro	Lys	Ala	Lys	Ser	Glu	Glu	Ser	Phe	Val	Leu	Asn	Glu	Thr	Lys	Lys
		115					120					125			
Asn	Ile	Val	Asn	Thr	Asp	Val	Pro	His	Gln	His	Pro	Glu	Leu	Leu	His
	130					135					140				
Ser	Ser	Ser	Leu	Val	Lys	Pro	Pro	Ala	Pro	Lys	Thr	Gly	Ser	Ile	Gln
145					150					155					160
Asn	Asn	Met	Leu	Thr	Leu	Asn	Leu	Val	Lys	Gln	His	Thr	Gly	Lys	Pro
			165						170					175	
Glu	Ser	Thr	Leu	Glu	Thr	Ser	Val	Asn	Gln	Asp	Thr	Gly	Arg	Gly	Gly
			180					185					190		
Phe	His	Thr	Cys	Phe	Glu	Asn	Leu	Asn	Ser	Thr	Thr	Ile	Thr	Leu	Thr
		195					200					205			
Thr	Ser	Asn	Ser	Glu	Ser	Ile	His	Gln	Ser	Leu	Glu	Thr	Gln	Glu	Val
		210				215					220				
Leu	Glu	Val	Thr	Thr	Ser	His	Leu	Ala	Asn	Pro	Asn	Phe	Thr	Ser	Asn
225					230					235					240
Ser	Met	Glu	Ile	Lys	Ser	Ala	Gln	Glu	Asn	Pro	Phe	Leu	Phe	Ser	Thr
			245						250					255	
Ile	Asn	Gln	Thr	Val	Glu	Glu	Leu	Asn	Thr	Asn	Lys	Glu	Ser	Val	Ile
			260					265					270		
Ala	Ile	Phe	Val	Pro	Ala	Glu	Asn	Ser	Lys	Pro	Ser	Val	Asn	Ser	Phe
		275					280					285			
Ile	Ser	Ala	Gln	Lys	Glu	Thr	Thr	Glu	Met	Glu	Asp	Thr	Asp	Ile	Glu
		290				295					300				
Asp	Ser	Leu	Tyr	Lys	Asp	Val	Asp	Tyr	Gly	Thr	Glu	Val	Leu	Gln	Ile
305					310					315					320
Glu	His	Ser	Tyr	Cys	Arg	Gln	Asp	Ile	Asn	Lys	Glu	His	Leu	Trp	Gln
				325					330					335	
Lys	Val	Ser	Lys	Leu	His	Ser	Lys	Ile	Thr	Leu	Leu	Glu	Leu	Lys	Glu
			340					345					350		
Gln	Gln	Thr	Leu	Gly	Arg	Leu	Lys	Ser	Leu	Glu	Ala	Leu	Ile	Arg	Gln
		355					360					365			
Leu	Lys	Gln	Glu	Asn	Trp	Leu	Ser	Glu	Glu	Asn	Val	Lys	Ile	Ile	Glu
		370				375					380				
Asn	His	Phe	Thr	Thr	Tyr	Glu	Val	Thr	Met	Ile					
385					390					395					

<210> 8

<211> 222

<212> PRT

<213> Homo sapiens

<400> 8

Met	Val	Lys	Cys	Cys	Ser	Ala	Ile	Gly	Cys	Ala	Ser	Arg	Cys	Leu	Pro
1				5					10					15	
Asn	Ser	Lys	Leu	Lys	Gly	Leu	Thr	Phe	His	Val	Phe	Pro	Thr	Asp	Glu
			20					25					30		
Asn	Ile	Lys	Arg	Lys	Trp	Val	Leu	Ala	Met	Lys	Arg	Leu	Asp	Val	Asn



Val Ser Pro Ser Ala Tyr Met Leu Arg Leu Pro Pro Pro Ala Gly Ala  
 210 215 220  
 Tyr Ile Gln Asn Glu His Ser Tyr Gln Val Gly Ser Ala Leu Leu Trp  
 225 230 235 240  
 Lys Arg Arg Ala Glu Ala Ala Leu Asp Ala Leu Asp Lys Ala Gln Arg  
 245 250 255  
 Gln Leu Gln Ala Cys Lys Arg Arg Glu Gln Arg Leu Arg Leu Arg Leu  
 260 265 270  
 Thr Lys Leu Gln Gln Glu Arg Ala Arg Glu Lys Arg Ala Gln Ala Asp  
 275 280 285  
 Ala Arg Gln Thr Leu Lys Glu His Val Gln Asp Phe Ala Met Gln Leu  
 290 295 300  
 Ser Ser Ser Met Ala  
 305

<210> 10  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens

<400> 10  
 Met Pro Lys Tyr Cys Arg Ala Pro Asn Cys Ser Asn Thr Ala Gly Arg  
 1 5 10 15  
 Leu Gly Ala Asp Asn Arg Pro Val Ser Phe Tyr Lys Phe Pro Leu Lys  
 20 25 30  
 Asp Gly Pro Arg Leu Gln Ala Trp Leu Gln His Met Gly Cys Glu His  
 35 40 45  
 Trp Val Pro Ser Cys His Gln His Leu Cys Ser Glu His Phe Thr Pro  
 50 55 60  
 Ser Cys Phe Gln Trp Arg Trp Gly Val Arg Tyr Leu Arg Pro Asp Ala  
 65 70 75 80  
 Val Pro Ser Ile Phe Ser Arg Gly Pro Pro Ala Lys Ser Gln Arg Arg  
 85 90 95  
 Thr Arg Ser Thr Gln Lys Pro Val Ser Pro Pro Pro Pro Leu Gln Lys  
 100 105 110  
 Asn Thr Pro Leu Pro Gln Ser Pro Ala Ile Pro Val Ser Gly Pro Val  
 115 120 125  
 Arg Leu Val Val Leu Gly Pro Thr Ser Gly Ser Pro Lys Thr Val Ala  
 130 135 140  
 Thr Met Leu Leu Thr Pro Leu Ala Pro Ala Pro Thr Pro Glu Arg Ser  
 145 150 155 160  
 Gln Pro Glu Val Pro Ala Gln Gln Ala Gln Thr Gly Leu Gly Pro Val  
 165 170 175  
 Leu Gly Ala Leu Gln Arg Arg Val Arg Arg Leu Gln Arg Cys Gln Glu  
 180 185 190  
 Arg His Gln Ala Gln Leu Gln Ala Leu Glu Arg Leu Ala Gln Gln Leu  
 195 200 205  
 His Gly Glu Ser Leu Leu Ala Arg Ala Arg Arg Gly Leu Gln Arg Leu  
 210 215 220  
 Thr Thr Ala Gln Thr Leu Gly Pro Glu Glu Ser Gln Thr Phe Thr Ile  
 225 230 235 240  
 Ile Cys Gly Gly Pro Asp Ile Ala Met Val Leu Ala Gln Asp Pro Ala  
 245 250 255  
 Pro Ala Thr Val Asp Ala Lys Pro Glu Leu Leu Asp Thr Arg Ile Pro  
 260 265 270  
 Ser Ala



<210> 11  
 <211> 903  
 <212> PRT  
 <213> Homo sapiens

<400> 11

Met	Thr	Arg	Ser	Cys	Ser	Ala	Val	Gly	Cys	Ser	Thr	Arg	Asp	Thr	Val
1				5					10					15	
Leu	Ser	Arg	Glu	Arg	Gly	Leu	Ser	Phe	His	Gln	Phe	Pro	Thr	Asp	Thr
			20					25					30		
Ile	Gln	Arg	Ser	Lys	Trp	Ile	Arg	Ala	Val	Asn	Arg	Val	Asp	Pro	Arg
		35				40						45			
Ser	Lys	Lys	Ile	Trp	Ile	Pro	Gly	Pro	Gly	Ala	Ile	Leu	Cys	Ser	Lys
	50					55					60				
His	Phe	Gln	Glu	Ser	Asp	Phe	Glu	Ser	Tyr	Gly	Ile	Arg	Arg	Lys	Leu
65					70					75					80
Lys	Lys	Gly	Ala	Val	Pro	Ser	Val	Ser	Leu	Tyr	Lys	Ile	Pro	Gln	Gly
				85					90					95	
Val	His	Leu	Lys	Gly	Lys	Ala	Arg	Gln	Lys	Ile	Leu	Lys	Gln	Pro	Leu
			100					105					110		
Pro	Asp	Asn	Ser	Gln	Glu	Val	Ala	Thr	Glu	Asp	His	Asn	Tyr	Ser	Leu
		115					120					125			
Lys	Thr	Pro	Leu	Thr	Ile	Gly	Ala	Glu	Lys	Leu	Ala	Glu	Val	Gln	Gln
		130				135					140				
Met	Leu	Gln	Val	Ser	Lys	Lys	Arg	Leu	Ile	Ser	Val	Lys	Asn	Tyr	Arg
145					150					155					160
Met	Ile	Lys	Lys	Arg	Lys	Gly	Leu	Arg	Leu	Ile	Asp	Ala	Leu	Val	Glu
			165					170						175	
Glu	Lys	Leu	Leu	Ser	Glu	Glu	Thr	Glu	Cys	Leu	Leu	Arg	Ala	Gln	Phe
			180					185					190		
Ser	Asp	Phe	Lys	Trp	Glu	Leu	Tyr	Asn	Trp	Arg	Glu	Thr	Asp	Glu	Tyr
		195					200					205			
Ser	Ala	Glu	Met	Lys	Gln	Phe	Ala	Cys	Thr	Leu	Tyr	Leu	Cys	Ser	Ser
	210					215					220				
Lys	Val	Tyr	Asp	Tyr	Val	Arg	Lys	Ile	Leu	Lys	Leu	Pro	His	Ser	Ser
225					230					235					240
Ile	Leu	Arg	Thr	Trp	Leu	Ser	Lys	Cys	Gln	Pro	Ser	Pro	Gly	Phe	Asn
				245				250						255	
Ser	Asn	Ile	Phe	Ser	Phe	Leu	Gln	Arg	Arg	Val	Glu	Asn	Gly	Asp	Gln
		260					265						270		
Leu	Tyr	Gln	Tyr	Cys	Ser	Leu	Leu	Ile	Lys	Ser	Ile	Pro	Leu	Lys	Gln
		275					280					285			
Gln	Leu	Gln	Trp	Asp	Pro	Ser	Ser	His	Ser	Leu	Gln	Gly	Phe	Met	Asp
	290					295					300				
Phe	Gly	Leu	Gly	Lys	Leu	Asp	Ala	Asp	Glu	Thr	Pro	Leu	Ala	Ser	Glu
305					310					315					320
Thr	Val	Leu	Leu	Met	Ala	Val	Gly	Ile	Phe	Gly	His	Trp	Arg	Thr	Pro
			325					330						335	
Leu	Gly	Tyr	Phe	Val	Asn	Arg	Ala	Ser	Gly	Tyr	Leu	Gln	Ala	Gln	
		340					345					350			
Leu	Leu	Arg	Leu	Thr	Ile	Gly	Lys	Leu	Ser	Asp	Ile	Gly	Ile	Thr	Val
		355				360						365			
Leu	Ala	Val	Thr	Ser	Asp	Ala	Thr	Ala	His	Ser	Val	Gln	Met	Ala	Lys
	370					375						380			

Ala	Leu	Gly	Ile	His	Ile	Asp	Gly	Asp	Asp	Met	Lys	Cys	Thr	Phe	Gln
385					390					395					400
His	Pro	Ser	Ser	Ser	Ser	Gln	Gln	Ile	Ala	Tyr	Phe	Phe	Asp	Ser	Cys
				405					410						415
His	Leu	Leu	Arg	Leu	Ile	Arg	Asn	Ala	Phe	Gln	Asn	Phe	Gln	Ser	Ile
			420					425					430		
Gln	Phe	Ile	Asn	Gly	Ile	Ala	His	Trp	Gln	His	Leu	Val	Glu	Leu	Val
		435					440					445			
Ala	Leu	Glu	Glu	Gln	Glu	Leu	Ser	Asn	Met	Glu	Arg	Ile	Pro	Ser	Thr
	450					455					460				
Leu	Ala	Asn	Leu	Lys	Asn	His	Val	Leu	Lys	Val	Asn	Ser	Ala	Thr	Gln
465					470					475					480
Leu	Phe	Ser	Glu	Ser	Val	Ala	Ser	Ala	Leu	Glu	Tyr	Leu	Leu	Ser	Leu
			485					490						495	
Asp	Leu	Pro	Pro	Phe	Gln	Asn	Cys	Ile	Gly	Thr	Ile	His	Phe	Leu	Arg
		500						505					510		
Leu	Ile	Asn	Asn	Leu	Phe	Asp	Ile	Phe	Asn	Ser	Arg	Asn	Cys	Tyr	Gly
		515					520					525			
Lys	Gly	Leu	Lys	Gly	Pro	Leu	Leu	Pro	Glu	Thr	Tyr	Ser	Lys	Ile	Asn
	530					535					540				
His	Val	Leu	Ile	Glu	Ala	Lys	Thr	Ile	Phe	Val	Thr	Leu	Ser	Asp	Thr
545					550					555					560
Ser	Asn	Asn	Gln	Ile	Ile	Lys	Gly	Lys	Gln	Lys	Leu	Gly	Phe	Leu	Gly
			565					570						575	
Phe	Leu	Leu	Asn	Ala	Glu	Ser	Leu	Lys	Trp	Leu	Tyr	Gln	Asn	Tyr	Val
		580						585					590		
Phe	Pro	Lys	Val	Met	Pro	Phe	Pro	Tyr	Leu	Leu	Thr	Tyr	Lys	Phe	Ser
		595					600					605			
His	Asp	His	Leu	Glu	Leu	Phe	Leu	Lys	Met	Leu	Arg	Gln	Val	Leu	Val
	610					615					620				
Thr	Ser	Ser	Ser	Pro	Thr	Cys	Met	Ala	Phe	Gln	Lys	Ala	Tyr	Tyr	Asn
625					630					635					640
Leu	Glu	Thr	Arg	Tyr	Lys	Phe	Gln	Asp	Glu	Val	Phe	Leu	Ser	Lys	Val
			645					650						655	
Ser	Ile	Phe	Asp	Ile	Ser	Ile	Ala	Arg	Arg	Lys	Asp	Leu	Ala	Leu	Trp
		660						665					670		
Thr	Val	Gln	Arg	Gln	Tyr	Gly	Val	Ser	Val	Thr	Lys	Thr	Val	Phe	His
		675					680						685		
Glu	Glu	Gly	Ile	Cys	Gln	Asp	Trp	Ser	His	Cys	Ser	Leu	Ser	Glu	Ala
	690					695					700				
Leu	Leu	Asp	Leu	Ser	Asp	His	Arg	Arg	Asn	Leu	Ile	Cys	Tyr	Ala	Gly
705					710					715					720
Tyr	Val	Ala	Asn	Lys	Leu	Ser	Ala	Leu	Leu	Thr	Cys	Glu	Asp	Cys	Ile
			725						730					735	
Thr	Ala	Leu	Tyr	Ala	Ser	Asp	Leu	Lys	Ala	Ser	Lys	Ile	Gly	Ser	Leu
		740						745					750		
Leu	Phe	Val	Lys	Lys	Lys	Asn	Gly	Leu	His	Phe	Pro	Ser	Glu	Ser	Leu
		755					760					765			
Cys	Arg	Val	Ile	Asn	Ile	Cys	Glu	Arg	Val	Val	Arg	Thr	His	Ser	Arg
	770					775					780				
Met	Ala	Ile	Phe	Glu	Leu	Val	Ser	Lys	Gln	Arg	Glu	Leu	Tyr	Leu	Gln
785					790					795					800
Gln	Lys	Ile	Leu	Cys	Glu	Leu	Ser	Gly	His	Ile	Asp	Leu	Phe	Val	Asp
			805						810					815	
Val	Asn	Lys	His	Leu	Phe	Asp	Gly	Glu	Val	Cys	Ala	Ile	Asn	His	Phe
		820						825					830		
Val	Lys	Leu	Leu	Lys	Asp	Ile	Ile	Ile	Cys	Phe	Leu	Asn	Ile	Arg	Ala



<400> 13

Met	Pro	Gly	Phe	Thr	Cys	Cys	Val	Pro	Gly	Cys	Tyr	Asn	Asn	Ser	His
1				5					10					15	
Arg	Asp	Lys	Ala	Leu	His	Phe	Tyr	Thr	Phe	Pro	Lys	Asp	Ala	Glu	Leu
			20					25					30		
Arg	Arg	Leu	Trp	Leu	Lys	Asn	Val	Ser	Arg	Ala	Gly	Val	Ser	Gly	Cys
		35					40					45			
Phe	Ser	Thr	Phe	Gln	Pro	Thr	Thr	Gly	His	Arg	Leu	Cys	Ser	Val	His
	50					55					60				
Phe	Gln	Gly	Gly	Arg	Lys	Thr	Tyr	Thr	Val	Arg	Val	Pro	Thr	Ile	Phe
65					70					75				80	
Pro	Leu	Arg	Gly	Val	Asn	Glu	Arg	Lys	Val	Ala	Arg	Arg	Pro	Ala	Gly
				85					90					95	
Ala	Ala	Ala	Ala	Arg	Arg	Arg	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
			100					105					110		
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
			115					120					125		
Gln	Gln	Gln	Gln	Ser	Ser	Pro	Ser	Ala	Ser	Thr	Ala	Gln	Thr	Ala	Gln
	130					135					140				
Leu	Gln	Pro	Asn	Leu	Val	Ser	Ala	Ser	Ala	Ala	Val	Leu	Leu	Thr	Leu
145					150					155					160
Gln	Ala	Thr	Val	Asp	Ser	Ser	Gln	Ala	Pro	Gly	Ser	Val	Gln	Pro	Ala
				165					170					175	
Pro	Ile	Thr	Pro	Thr	Gly	Glu	Asp	Val	Lys	Pro	Ile	Asp	Leu	Thr	Val
		180						185					190		
Gln	Val	Glu	Phe	Ala	Ala	Ala	Glu	Gly	Ala	Ala	Ala	Ala	Ala	Ala	Ala
	195						200					205			
Ser	Glu	Leu	Gln	Ala	Ala	Thr	Ala	Gly	Leu	Glu	Ala	Ala	Glu	Cys	Pro
	210					215					220				
Met	Gly	Pro	Gln	Leu	Val	Val	Val	Gly	Glu	Glu	Gly	Phe	Pro	Asp	Thr
225					230					235				240	
Gly	Ser	Asp	His	Ser	Tyr	Ser	Leu	Ser	Ser	Gly	Thr	Thr	Glu	Glu	Glu
			245						250					255	
Leu	Leu	Arg	Lys	Leu	Asn	Glu	Gln	Arg	Asp	Ile	Leu	Ala	Leu	Met	Glu
			260					265					270		
Val	Lys	Met	Lys	Glu	Met	Lys	Gly	Ser	Ile	Arg	His	Leu	Arg	Leu	Thr
	275						280					285			
Glu	Ala	Lys	Leu	Arg	Glu	Glu	Leu	Arg	Glu	Lys	Asp	Arg	Leu	Leu	Ala
	290					295					300				
Met	Ala	Val	Ile	Arg	Lys	Lys	His	Gly	Met						
305					310										

<210> 14

<211> 761

<212> PRT

<213> Homo sapiens

<400> 14

Met	Pro	Asn	Phe	Cys	Ala	Ala	Pro	Asn	Cys	Thr	Arg	Lys	Ser	Thr	Gln
1				5					10					15	
Ser	Asp	Leu	Ala	Phe	Phe	Arg	Phe	Pro	Arg	Asp	Pro	Ala	Arg	Cys	Gln
		20						25					30		
Lys	Trp	Val	Glu	Asn	Cys	Arg	Arg	Ala	Asp	Leu	Glu	Asp	Lys	Thr	Pro
	35						40					45			
Asp	Gln	Leu	Asn	Lys	His	Tyr	Arg	Leu	Cys	Ala	Lys	His	Phe	Glu	Thr



Ser Leu Thr Ala Val Leu His Ser Leu Asn Glu Val Met Glu Asn Ile  
 515 520 525  
 Glu Val Tyr His Glu Phe Trp Phe Glu Glu Ala Thr Asn Leu Ala Thr  
 530 535 540  
 Lys Leu Asp Ile Gln Met Lys Leu Pro Gly Lys Phe Arg Arg Ala His  
 545 550 555 560  
 Gln Gly Asn Leu Glu Ser Gln Leu Thr Ser Glu Ser Tyr Tyr Lys Glu  
 565 570 575  
 Thr Leu Ser Val Pro Thr Val Glu His Ile Ile Gln Glu Leu Lys Asp  
 580 585 590  
 Ile Phe Ser Glu Gln His Leu Lys Ala Leu Lys Cys Leu Ser Leu Val  
 595 600 605  
 Pro Ser Val Met Gly Gln Leu Lys Phe Asn Thr Ser Glu Glu His His  
 610 615 620  
 Ala Asp Met Tyr Arg Ser Asp Leu Pro Asn Pro Asp Thr Leu Ser Ala  
 625 630 635 640  
 Glu Leu His Cys Trp Arg Ile Lys Trp Lys His Arg Gly Lys Asp Ile  
 645 650 655  
 Glu Leu Pro Ser Thr Ile Tyr Glu Ala Leu His Leu Pro Asp Ile Lys  
 660 665 670  
 Phe Phe Pro Asn Val Tyr Ala Leu Leu Lys Val Leu Cys Ile Leu Pro  
 675 680 685  
 Val Met Lys Val Glu Asn Glu Arg Tyr Glu Asn Gly Arg Lys Arg Leu  
 690 695 700  
 Lys Ala Tyr Leu Arg Asn Thr Leu Thr Asp Gln Arg Ser Ser Asn Leu  
 705 710 715 720  
 Ala Leu Leu Asn Ile Asn Phe Asp Ile Lys His Asp Leu Asp Leu Met  
 725 730 735  
 Val Asp Thr Tyr Ile Lys Leu Tyr Thr Ser Lys Ser Glu Leu Pro Thr  
 740 745 750  
 Asp Asn Ser Glu Thr Val Glu Asn Thr  
 755 760

<210> 15  
 <211> 38  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Consensus sequence for PAR4 binding domain of THAP

<221> UNSURE  
 <222> (1)...(38)  
 <223> Xaa = Any Amino Acid

<400> 15  
 Leu Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1 5 10 15  
 Gln Arg Xaa Arg Arg Gln Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Xaa Xaa Xaa Gln Xaa Glu  
 35

<210> 16  
 <211> 73

<212> PRT

<213> Sus scrofa

<400> 16

Met	Val	Gln	Ser	Cys	Ser	Ala	Tyr	Gly	Cys	Lys	Asn	Arg	Tyr	Asp	Lys
1				5					10					15	
Asp	Lys	Pro	Val	Ser	Phe	His	Lys	Phe	Pro	Leu	Thr	Arg	Pro	Ser	Leu
			20					25					30		
Cys	Lys	Lys	Trp	Glu	Ala	Ala	Val	Arg	Arg	Lys	Asn	Phe	Lys	Pro	Thr
		35					40					45			
Lys	Tyr	Ser	Ser	Ile	Cys	Ser	Glu	His	Phe	Thr	Pro	Asp	Cys	Phe	Lys
	50					55					60				
Arg	Glu	Cys	Asn	Asn	Lys	Leu	Leu	Lys							
65					70										

<210> 17

<211> 99

<212> PRT

<213> Sus scrofa

<400> 17

Met	Val	Lys	Cys	Cys	Ser	Ala	Ile	Gly	Cys	Ala	Ser	Arg	Cys	Leu	Pro
1				5					10					15	
Asn	Ser	Lys	Leu	Lys	Gly	Leu	Thr	Phe	His	Val	Phe	Pro	Thr	Asp	Glu
			20					25					30		
Lys	Val	Lys	Arg	Lys	Trp	Val	Leu	Ala	Met	Lys	Arg	Leu	Asp	Val	Asn
		35					40					45			
Ala	Ala	Gly	Met	Trp	Glu	Pro	Lys	Lys	Gly	Asp	Val	Leu	Cys	Ser	Arg
	50					55				60					
His	Phe	Lys	Lys	Thr	Asp	Phe	Asp	Arg	Thr	Thr	Pro	Asn	Ile	Lys	Leu
65					70				75						80
Lys	Pro	Gly	Val	Ile	Pro	Ser	Ile	Phe	Asp	Ser	Pro	Ser	His	Leu	Thr
				85					90					95	
Gly	Glu	Glu													

<210> 18

<211> 103

<212> PRT

<213> Sus scrofa

<400> 18

Met	Pro	Arg	His	Cys	Ser	Ala	Ala	Gly	Cys	Cys	Thr	Arg	Asp	Thr	Arg
1				5					10					15	
Glu	Thr	Arg	Asn	Arg	Gly	Ile	Ser	Phe	His	Arg	Leu	Pro	Lys	Lys	Asp
			20					25					30		
Asn	Pro	Arg	Arg	Gly	Leu	Trp	Leu	Ala	Asn	Cys	Gln	Arg	Leu	Asp	Pro
		35					40					45			
Ser	Gly	Gln	Gly	Leu	Trp	Asp	Pro	Ala	Ser	Glu	Tyr	Ile	Tyr	Phe	Cys
	50					55					60				
Ser	Lys	His	Phe	Glu	Glu	Asn	Cys	Phe	Glu	Leu	Val	Gly	Ile	Ser	Gly
65					70				75						80
Tyr	His	Arg	Leu	Lys	Glu	Gly	Ala	Val	Pro	Thr	Ile	Phe	Glu	Ser	Phe
				85					90					95	
Ser	Lys	Leu	Arg	Arg	Thr	Ala									

100

<210> 19  
 <211> 99  
 <212> PRT  
 <213> Sus scrofa

<400> 19  
 Met Thr Arg Ser Cys Ser Ala Val Gly Cys Ser Thr Arg Asp Thr Val  
 1 5 10 15  
 Leu Ser Arg Glu Arg Gly Leu Ser Phe His Gln Phe Pro Thr Asp Thr  
 20 25 30  
 Ile Gln Arg Ser Gln Trp Ile Arg Ala Val Asn Arg Met Asp Pro Arg  
 35 40 45  
 Ser Lys Lys Ile Trp Ile Pro Gly Pro Gly Ala Met Leu Cys Ser Lys  
 50 55 60  
 His Phe Gln Glu Ser Asp Phe Glu Ser Tyr Gly Ile Arg Arg Lys Leu  
 65 70 75 80  
 Lys Lys Gly Ala Val Pro Ser Val Ser Leu Tyr Lys Val Leu Gln Gly  
 85 90 95  
 Ala His Leu

<210> 20  
 <211> 92  
 <212> PRT  
 <213> Bos taurus

<400> 20  
 Met Pro Lys Ser Cys Ala Ala Arg Gln Cys Cys Asn Arg Tyr Ser Asn  
 1 5 10 15  
 Arg Arg Lys Gln Leu Thr Phe His Arg Phe Pro Phe Ser Arg Pro Glu  
 20 25 30  
 Leu Leu Lys Glu Trp Val Leu Asn Ile Gly Arg Gly Asp Phe Glu Pro  
 35 40 45  
 Lys Gln His Thr Val Ile Cys Ser Glu His Phe Arg Pro Glu Cys Phe  
 50 55 60  
 Ser Ala Phe Gly Asn Arg Lys Asn Leu Lys His Asn Ala Val Pro Thr  
 65 70 75 80  
 Val Phe Ala Phe Gln Gly Pro Pro Gln Leu Val Arg  
 85 90

<210> 21  
 <211> 75  
 <212> PRT  
 <213> Bos taurus

<400> 21  
 Arg Leu Pro Lys Lys Asp Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn  
 1 5 10 15  
 Cys Gln Arg Leu Asp Pro Ser Gly Gln Gly Leu Trp Asp Pro Ala Ser  
 20 25 30  
 Glu Tyr Ile Tyr Phe Cys Ser Lys His Phe Glu Glu Asn Cys Phe Glu  
 35 40 45



Leu Val Gly Ile Ser Gly Tyr His Arg Leu Lys Glu Gly Ala Val Pro  
 50 55 60  
 Thr Ile Phe Glu Ser Phe Ser Lys Leu Arg Arg  
 65 70 75

<210> 22  
 <211> 91  
 <212> PRT  
 <213> Mus musculus

<400> 22  
 Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Lys Asn Arg Tyr Asp Lys  
 1 5 10 15  
 Asp Lys Pro Val Ser Phe His Lys Phe Pro Leu Thr Arg Pro Ser Leu  
 20 25 30  
 Cys Lys Gln Trp Glu Ala Ala Val Lys Arg Lys Asn Phe Lys Pro Thr  
 35 40 45  
 Lys Tyr Ser Ser Ile Cys Ser Glu His Phe Thr Pro Asp Cys Phe Lys  
 50 55 60  
 Arg Glu Cys Asn Asn Lys Leu Leu Lys Glu Asn Ala Val Pro Thr Ile  
 65 70 75 80  
 Phe Leu Tyr Ile Glu Pro His Glu Lys Lys Glu  
 85 90

<210> 23  
 <211> 90  
 <212> PRT  
 <213> Mus musculus

<400> 23  
 Met Pro Thr Asn Cys Ala Ala Ala Gly Cys Ala Ala Thr Tyr Asn Lys  
 1 5 10 15  
 His Ile Asn Ile Ser Phe His Arg Phe Pro Leu Asp Pro Lys Arg Arg  
 20 25 30  
 Lys Glu Trp Val Arg Leu Val Arg Arg Lys Asn Phe Val Pro Gly Lys  
 35 40 45  
 His Thr Phe Leu Cys Ser Lys His Phe Glu Ala Ser Cys Phe Asp Leu  
 50 55 60  
 Thr Gly Gln Thr Arg Arg Leu Lys Met Asp Ala Val Pro Thr Ile Phe  
 65 70 75 80  
 Asp Phe Cys Thr His Ile Lys Ser Leu Lys  
 85 90

<210> 24  
 <211> 92  
 <212> PRT  
 <213> Mus musculus

<400> 24  
 Met Pro Lys Ser Cys Ala Ala Arg Gln Cys Cys Asn Arg Tyr Ser Ser  
 1 5 10 15  
 Arg Arg Lys Gln Leu Thr Phe His Arg Phe Pro Phe Ser Arg Pro Glu  
 20 25 30  
 Leu Leu Arg Glu Trp Val Leu Asn Ile Gly Arg Ala Asp Phe Lys Pro

	35					40					45						
Lys	Gln	His	Thr	Val	Ile	Cys	Ser	Glu	His	Phe	Arg	Pro	Glu	Cys	Phe		
	50					55					60						
Ser	Ala	Phe	Gly	Asn	Arg	Lys	Asn	Leu	Lys	His	Asn	Ala	Val	Pro	Thr		
65					70					75					80		
Val	Phe	Ala	Phe	Gln	Asn	Pro	Thr	Glu	Val	Cys	Pro						
				85					90								

<210> 25  
 <211> 95  
 <212> PRT  
 <213> Mus musculus

<400> 25																	
Met	Val	Ile	Cys	Cys	Ala	Ala	Val	Asn	Cys	Ser	Asn	Arg	Gln	Gly	Lys		
1			5					10					15				
Gly	Glu	Lys	Arg	Ala	Val	Ser	Phe	His	Arg	Phe	Pro	Leu	Lys	Asp	Ser		
			20					25					30				
Lys	Arg	Leu	Ile	Gln	Trp	Leu	Lys	Ala	Val	Gln	Arg	Asp	Asn	Trp	Thr		
		35				40						45					
Pro	Thr	Lys	Tyr	Ser	Phe	Leu	Cys	Ser	Glu	His	Phe	Thr	Lys	Asp	Ser		
	50				55					60							
Phe	Ser	Lys	Arg	Leu	Glu	Asp	Gln	His	Arg	Leu	Leu	Lys	Pro	Thr	Ala		
65				70				75							80		
Val	Pro	Ser	Ile	Phe	His	Leu	Ser	Glu	Lys	Lys	Arg	Gly	Ala	Gly			
				85				90						95			

<210> 26  
 <211> 52  
 <212> PRT  
 <213> Mus musculus

<400> 26																	
Ile	Leu	Gln	Ala	Phe	Gly	Ser	Leu	Lys	Lys	Gly	Asp	Val	Leu	Cys	Ser		
1			5					10					15				
Arg	His	Phe	Lys	Lys	Thr	Asp	Phe	Asp	Arg	Ser	Thr	Leu	Asn	Thr	Lys		
			20					25					30				
Leu	Lys	Ala	Gly	Ala	Ile	Pro	Ser	Ile	Phe	Glu	Cys	Pro	Tyr	His	Leu		
		35				40						45					
Gln	Glu	Lys	Arg														
	50																

<210> 27  
 <211> 103  
 <212> PRT  
 <213> Mus musculus

<400> 27																	
Met	Pro	Arg	His	Cys	Ser	Ala	Ala	Gly	Cys	Cys	Thr	Arg	Asp	Thr	Arg		
1			5					10					15				
Glu	Thr	Arg	Asn	Arg	Gly	Ile	Ser	Phe	His	Arg	Leu	Pro	Lys	Lys	Asp		
			20					25					30				
Asn	Pro	Arg	Arg	Gly	Leu	Trp	Leu	Ala	Asn	Cys	Gln	Arg	Leu	Asp	Pro		
		35				40						45					

Ser Gly Gln Gly Leu Trp Asp Pro Thr Ser Glu Tyr Ile Tyr Phe Cys  
50 55 60  
Ser Lys His Phe Glu Glu Asn Cys Phe Glu Leu Val Gly Ile Ser Gly  
65 70 75 80  
Tyr His Arg Leu Lys Glu Gly Ala Val Pro Thr Ile Phe Glu Ser Phe  
85 90 95  
Ser Lys Leu Arg Arg Thr Ala  
100

<210> 28  
<211> 90  
<212> PRT  
<213> Mus musculus

<400> 28  
Met Pro Gly Phe Thr Cys Cys Val Pro Gly Cys Tyr Asn Asn Ser His  
1 5 10 15  
Arg Asp Lys Ala Leu His Phe Tyr Thr Phe Pro Lys Asp Ala Glu Leu  
20 25 30  
Arg Arg Leu Trp Leu Lys Asn Val Ser Arg Ala Gly Val Ser Gly Cys  
35 40 45  
Phe Ser Thr Phe Gln Pro Thr Thr Gly His Arg Leu Cys Ser Val His  
50 55 60  
Phe Gln Gly Gly Arg Lys Thr Tyr Thr Val Arg Val Pro Thr Ile Phe  
65 70 75 80  
Pro Leu Arg Gly Val Asn Glu Arg Lys Val  
85 90

<210> 29  
<211> 96  
<212> PRT  
<213> Mus musculus

<400> 29  
Met Pro Asn Phe Cys Ala Ala Pro Asn Cys Thr Arg Lys Ser Thr Gln  
1 5 10 15  
Ser Asp Leu Ala Phe Phe Arg Phe Pro Arg Asp Pro Ala Arg Cys Gln  
20 25 30  
Lys Trp Val Glu Asn Cys Arg Arg Ala Asp Leu Glu Asp Lys Thr Pro  
35 40 45  
Asp Gln Leu Asn Lys His Tyr Arg Leu Cys Ala Lys His Phe Glu Thr  
50 55 60  
Ser Met Ile Cys Arg Thr Ser Pro Tyr Arg Thr Val Leu Arg Asp Asn  
65 70 75 80  
Ala Ile Pro Thr Ile Phe Asp Leu Thr Ser His Leu Asn Asn Pro His  
85 90 95

<210> 30  
<211> 24  
<212> PRT  
<213> Rattus norvegicus

<400> 30  
Met Pro Thr Asn Cys Ala Ala Ala Gly Cys Ala Ala Thr Tyr Asn Lys

1                    5                    10                    15  
 His Ile Asn Ile Ser Phe His Arg  
                   20

<210> 31  
 <211> 85  
 <212> PRT  
 <213> Rattus norvegicus

<400> 31  
 Arg Gln Cys Cys Asn Arg Tyr Ser Ser Arg Arg Lys Gln Leu Thr Phe  
   1                  5                  10                  15  
 His Arg Phe Pro Phe Ser Arg Pro Glu Leu Leu Arg Glu Trp Val Leu  
                   20                  25                  30  
 Asn Ile Gly Arg Ala Asp Phe Lys Pro Lys Gln His Thr Val Ile Cys  
                   35                  40                  45  
 Ser Glu His Phe Arg Pro Glu Cys Phe Ser Ala Phe Gly Asn Arg Lys  
                   50                  55                  60  
 Asn Leu Lys His Asn Ala Val Pro Thr Val Phe Ala Phe Gln Asn Pro  
   65                  70                  75                  80  
 Ala Gln Val Cys Pro  
                   85

<210> 32  
 <211> 70  
 <212> PRT  
 <213> Rattus norvegicus

<400> 32  
 Arg Phe Pro Leu Lys Asp Ser Lys Arg Leu Ile Gln Trp Leu Lys Ala  
   1                  5                  10                  15  
 Val Gln Arg Asp Asn Trp Thr Pro Thr Lys Tyr Ser Phe Leu Cys Ser  
                   20                  25                  30  
 Glu His Phe Thr Lys Asp Ser Phe Ser Lys Arg Leu Glu Asp Gln His  
                   35                  40                  45  
 Arg Leu Leu Lys Pro Thr Ala Val Pro Ser Ile Phe His Leu Ser Glu  
                   50                  55                  60  
 Lys Lys Arg Gly Ala Gly  
   65                  70

<210> 33  
 <211> 55  
 <212> PRT  
 <213> Rattus norvegicus

<400> 33  
 Met Val Lys Cys Cys Ser Ala Ile Gly Cys Ala Ser Arg Cys Leu Pro  
   1                  5                  10                  15  
 Asn Ser Lys Leu Lys Gly Leu Thr Phe His Val Phe Pro Thr Asp Glu  
                   20                  25                  30  
 Asn Ile Lys Arg Lys Trp Val Leu Ala Met Lys Arg Leu Asp Val Asn  
                   35                  40                  45  
 Thr Ala Gly Ile Trp Glu Pro  
                   50                  55

<210> 34  
 <211> 103  
 <212> PRT  
 <213> Rattus norvegicus

<400> 34  
 Met Pro Arg His Cys Ser Ala Ala Gly Cys Cys Thr Arg Asp Thr Arg  
 1 5 10 15  
 Glu Thr Arg Asn Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp  
 20 25 30  
 Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn Cys Gln Arg Leu Asp Pro  
 35 40 45  
 Ser Gly Gln Gly Leu Trp Asp Pro Thr Ser Glu Tyr Ile Tyr Phe Cys  
 50 55 60  
 Ser Lys His Phe Glu Glu Asn Cys Phe Glu Leu Val Gly Ile Ser Gly  
 65 70 75 80  
 Tyr His Arg Leu Lys Glu Gly Ala Val Pro Thr Ile Phe Glu Ser Phe  
 85 90 95  
 Ser Lys Leu Arg Arg Thr Ala  
 100

<210> 35  
 <211> 90  
 <212> PRT  
 <213> Rattus norvegicus

<400> 35  
 Met Pro Gly Phe Thr Cys Cys Val Pro Gly Cys Tyr Asn Asn Ser His  
 1 5 10 15  
 Arg Asp Lys Ala Leu His Phe Tyr Thr Phe Pro Lys Asp Ala Glu Leu  
 20 25 30  
 Arg Arg Leu Trp Leu Lys Asn Val Ser Arg Ala Gly Val Ser Gly Cys  
 35 40 45  
 Phe Ser Thr Phe Gln Pro Thr Thr Gly His Arg Leu Cys Ser Val His  
 50 55 60  
 Phe Gln Gly Gly Arg Lys Thr Tyr Thr Val Arg Val Pro Thr Ile Phe  
 65 70 75 80  
 Pro Leu Arg Gly Val Asn Glu Arg Lys Val  
 85 90

<210> 36  
 <211> 96  
 <212> PRT  
 <213> Rattus norvegicus

<400> 36  
 Met Pro Asn Phe Cys Ala Ala Pro Asn Cys Thr Arg Lys Ser Thr Gln  
 1 5 10 15  
 Ser Asp Leu Ala Phe Phe Arg Phe Pro Arg Asp Pro Ala Arg Cys Gln  
 20 25 30  
 Lys Trp Val Glu Asn Cys Arg Arg Ala Asp Leu Glu Asp Lys Thr Pro  
 35 40 45  
 Asp Gln Leu Asn Lys His Tyr Arg Leu Cys Ala Lys His Phe Glu Thr

50		55		60
Ser Met Ile Cys Arg Thr Ser Pro Tyr Arg Thr Val Leu Arg Asp Asn				
65	70	75	80	
Ala Ile Pro Thr Ile Phe Asp Leu Thr Ser His Leu Asn Asn Pro His				
85	90	95		

<210> 37  
 <211> 94  
 <212> PRT  
 <213> Gallus gallus

<400> 37	
Met Val Ile Cys Cys Ala Ala Ala Asn Cys Ser Asn Arg Gln Gly Lys	
1	15
Ala Leu Arg Gly Ala Val Ser Phe His Arg Phe Pro Leu Lys Asp Ser	
20	30
Lys Arg Leu Ile Gln Trp Leu Lys Ala Val Gln Arg Asp Asn Trp Thr	
35	45
Pro Thr Lys Tyr Ser Phe Leu Cys Ser Glu His Phe Thr Lys Asp Ser	
50	60
Phe Ser Arg Arg Leu Glu Asp Gln His Arg Leu Leu Lys Pro Thr Ala	
65	80
Val Pro Thr Ile Phe Gln Leu Ala Glu Lys Lys Arg Asp Asn	
85	90

<210> 38  
 <211> 94  
 <212> PRT  
 <213> Gallus gallus

<400> 38	
Met Pro Arg Tyr Cys Ala Ala Ser Tyr Cys Lys Asn Arg Gly Gly Gln	
1	15
Ser Ala Arg Asp Gln Arg Lys Leu Ser Phe Tyr Pro Phe Pro Leu His	
20	30
Asp Lys Glu Arg Leu Glu Lys Trp Leu Arg Asn Met Lys Arg Asp Ala	
35	45
Trp Thr Pro Ser Lys His Gln Leu Leu Cys Ser Asp His Phe Thr Pro	
50	60
Asp Ser Leu Asp Val Arg Trp Gly Ile Arg Tyr Leu Lys His Thr Ala	
65	80
Val Pro Thr Ile Phe Ser Ser Pro Asp Asp Glu Glu Lys Gly	
85	90

<210> 39  
 <211> 102  
 <212> PRT  
 <213> Gallus gallus

<400> 39	
Met Pro Arg His Cys Ser Ala Ala Gly Cys Cys Thr Arg Asp Thr Arg	
1	15
Glu Thr Arg Ser Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp	
20	30

Asn Pro Arg Arg Ala Leu Trp Leu Glu Asn Ser Arg Arg Arg Asp Ala  
           35                  40                  45  
 Ser Gly Glu Gly Arg Trp Asp Pro Ala Ser Lys Tyr Ile Tyr Phe Cys  
       50                  55                  60  
 Ser Gln His Phe Glu Lys Ser Cys Phe Glu Ile Val Gly Phe Ser Gly  
 65                  70                  75                  80  
 Tyr His Arg Leu Lys Glu Gly Ala Val Pro Thr Val Phe Glu Ser Thr  
                   85                  90                  95  
 Ser Pro Arg Pro Pro Arg  
                   100

<210> 40  
 <211> 27  
 <212> PRT  
 <213> Gallus gallus

<400> 40  
 Met Thr Arg Ser Cys Ser Ala Leu Gly Cys Ser Ala Arg Asp Asn Gly  
   1                  5                  10                  15  
 Arg Ser Arg Glu Arg Gly Ile Ser Phe His Gln  
                   20                  25

<210> 41  
 <211> 90  
 <212> PRT  
 <213> Xenopus laevi

<400> 41  
 Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Lys Asn Arg Tyr Asp Lys  
   1                  5                  10                  15  
 Asp Arg Pro Ile Ser Phe His Lys Phe Pro Leu Lys Arg Pro Leu Leu  
                   20                  25                  30  
 Cys Lys Lys Trp Glu Ala Ala Val Arg Arg Ala Asp Phe Lys Pro Thr  
       35                  40                  45  
 Lys Tyr Ser Ser Ile Cys Ser Asp His Phe Thr Ala Asp Cys Phe Lys  
       50                  55                  60  
 Arg Glu Cys Asn Asn Lys Leu Leu Lys Asp Asn Ala Val Pro Thr Val  
 65                  70                  75                  80  
 Phe Ala Leu Ala Glu Ile Lys Lys Lys Met  
                   85                  90

<210> 42  
 <211> 103  
 <212> PRT  
 <213> Xenopus laevi

<400> 42  
 Met Pro Arg His Cys Ser Ala Leu Gly Cys Thr Thr Arg Asp Ser Arg  
   1                  5                  10                  15  
 Gln Thr Arg Asn Asn Asn Ile Ser Phe His Arg Leu Pro Arg Lys Asp  
                   20                  25                  30  
 Asp Pro Arg Arg Asn Leu Trp Ile Ala Asn Cys Gln Arg Thr Asp Pro  
       35                  40                  45  
 Ser Gly Lys Gly Leu Trp Asp Pro Ser Ser Asp Tyr Val Tyr Phe Cys

50		55		60											
Ser	Lys	His	Phe	Glu	Lys	Ser	Cys	Phe	Glu	Val	Val	Gly	Thr	Ser	Gly
65				70					75					80	
Tyr	His	Arg	Leu	Lys	Glu	Asp	Ala	Val	Pro	Thr	Leu	Phe	Leu	Ser	Ser
			85					90					95		
Ala	Lys	Leu	Arg	Arg	Ala	Ala									
			100												

<210> 43  
 <211> 90  
 <212> PRT  
 <213> *Xenopus laevis*

<400> 43
Met Val Arg Ser Cys Ser Ala Ala Asn Cys Val Asn Arg Gln Thr Ala
1 5 10 15
Leu Asn Lys Arg Lys Gly Ile Thr Phe His Arg Phe Pro Lys Glu Gln
20 25 30
Ala Arg Arg Gln Leu Trp Ile Thr Ala Val Thr His Ser His Ala Ala
35 40 45
Val Gly Thr Asp Trp Thr Pro Ser Ile His Ser Ser Leu Cys Ser Gln
50 55 60
His Phe Asn Asn Thr Gln Phe Asp Arg Thr Gly Gln Thr Val Arg Leu
65 70 75 80
Arg Asp Ser Ala Val Pro Thr Val Phe Ser
85 90

<210> 44  
 <211> 99  
 <212> PRT  
 <213> *Xenopus laevis*

<400> 44
Met Pro Val Ser Cys Ala Ala Ser Gly Cys Lys Ser Arg Tyr Thr Met
1 5 10 15
Asp Ala Arg Glu Lys Gly Ile Thr Phe His Arg Phe Pro Arg Ser Asn
20 25 30
Pro Thr Leu Leu Glu Lys Trp Arg Leu Ala Met Arg Arg Ser Thr Arg
35 40 45
Asn Gly Glu Leu Trp Met Pro Ser Arg Tyr Gln Arg Leu Cys Ser Leu
50 55 60
His Phe Lys Gln Cys Cys Phe Asp Thr Thr Gly Gln Thr Lys Arg Leu
65 70 75 80
Arg Glu Asp Val Ile Pro Thr Ile Phe Asp Phe Pro Glu Glu Thr His
85 90 95
Val Ile Phe

<210> 45  
 <211> 90  
 <212> PRT  
 <213> *Xenopus laevis*

<400> 45



Met	Pro	Ala	Cys	Ala	Ala	Ile	Asn	Cys	Thr	Ser	Arg	Gln	Thr	Arg	Gly
1				5					10					15	
Cys	Gly	Lys	Ser	Phe	His	Lys	Phe	Pro	His	Gly	Arg	Pro	Glu	Val	Leu
			20					25					30		
Lys	Lys	Trp	Val	Met	Asn	Met	Arg	Arg	Asp	Lys	Phe	Lys	Pro	Ser	Ser
		35					40					45			
Lys	Ala	Val	Leu	Cys	Ser	Asp	His	Phe	Glu	Glu	Phe	Cys	Phe	Asp	Arg
		50				55					60				
Thr	Gly	Gln	Thr	Ile	Arg	Leu	Arg	Thr	Asp	Ala	Val	Pro	Thr	Val	Phe
65					70					75					80
Thr	Phe	Pro	Gly	Lys	Met	Lys	Lys	Asp	Arg						
				85					90						

<210> 46

<211> 105

<212> PRT

<213> *Xenopus laevis*

<400> 46

Met	Pro	His	Cys	Val	Val	Ser	Asn	Cys	Val	His	Phe	Asn	Tyr	Lys	Lys
1				5					10					15	
Ser	Asn	Leu	His	Gly	Val	Ala	Leu	His	Pro	Phe	Pro	Asn	Asp	Leu	Ser
			20					25					30		
Arg	Ile	Lys	Leu	Trp	Leu	Gln	Gln	Ile	Gly	Leu	Thr	Thr	Asp	Glu	Ile
		35					40					45			
Asp	Tyr	Leu	Ala	Gln	Lys	Val	Val	Glu	Gly	Lys	Arg	Lys	Lys	Thr	Asp
		50				55					60				
Ser	His	Arg	Met	Cys	Ser	Ala	His	Phe	Thr	Pro	Asn	Cys	Tyr	Ile	Val
65					70					75					80
Gln	Asp	Ala	Lys	Leu	Val	Leu	Arg	Ser	Asp	Ala	Ile	Pro	Thr	Met	Phe
			85						90					95	
Pro	Gly	Leu	Ser	Ser	Ser	Thr	Thr	Asn							
			100					105							

<210> 47

<211> 104

<212> PRT

<213> *Xenopus laevis*

<400> 47

Met	Pro	Lys	Cys	Ile	Val	Thr	Lys	Cys	Pro	His	Lys	Thr	Gly	Gln	Lys
1				5					10					15	
Glu	Leu	Tyr	Pro	Ser	Val	Ile	Leu	His	Pro	Phe	Pro	Gly	Asn	Ile	Glu
			20					25					30		
Lys	Ile	Lys	Gln	Trp	Leu	Leu	Gln	Thr	Gly	Glu	Asp	Tyr	Gly	Asp	Tyr
		35					40					45			
Glu	Val	Phe	Ala	Glu	Lys	Val	Leu	Glu	Ala	Lys	Lys	Thr	Asp	Ala	Tyr
		50				55					60				
Arg	Ile	Cys	Ser	Arg	His	Phe	Ala	Glu	Asp	Gln	Tyr	Val	Lys	Arg	Gly
65					70					75					80
Pro	Arg	Lys	Leu	Leu	Ser	Lys	Asp	Ala	Val	Pro	Thr	Ile	Phe	Ser	Asn
			85						90					95	
Leu	His	Pro	Leu	Ile	Gln	Leu	His								
			100												

<210> 48  
 <211> 102  
 <212> PRT  
 <213> Xenopus laevis

<400> 48  
 Met Pro Arg Cys Val Val Lys Asn Cys Pro His Trp Thr Gly Lys Lys  
 1 5 10 15  
 Gly Ser Gln Val Ile Leu His Gly Phe Pro Asn Asn Ser Arg Leu Ile  
 20 25 30  
 Lys Leu Trp Leu Ser Gln Thr Lys Gln Asp Phe Gly Asp Val Glu Asp  
 35 40 45  
 Phe Thr Gln Lys Ile Leu Glu Gly Lys Lys Asn Asp Leu Tyr Arg Leu  
 50 55 60  
 Cys Ser Lys His Phe Thr Asn Asp Ser Tyr Glu Ile Arg Gly Thr Lys  
 65 70 75 80  
 Arg Phe Leu Lys Tyr Gly Ala Val Pro Thr Val Phe Glu Asp Thr Pro  
 85 90 95  
 Pro Leu Lys Arg Arg Lys  
 100

<210> 49  
 <211> 104  
 <212> PRT  
 <213> Xenopus laevis

<400> 49  
 Met Pro Asn Cys Ile Val Lys Asp Cys Arg His Lys Ser Gly Gln Lys  
 1 5 10 15  
 Ile Gln Asn Pro Asp Val Val Leu His Pro Phe Pro Asn Asn Ile Asn  
 20 25 30  
 Met Ile Lys Asn Trp Leu Leu Gln Thr Gly Gln Asp Phe Gly Asp Ile  
 35 40 45  
 Asp Val Leu Ala Asp Lys Ile Leu Lys Gly Lys Lys Thr Ala Asn Phe  
 50 55 60  
 Arg Met Cys Ser Cys His Phe Thr Arg Asp Ser Tyr Met Ala Arg Gly  
 65 70 75 80  
 Ser Lys Thr Thr Leu Lys Pro Asn Ala Ile Pro Thr Ile Phe Pro Val  
 85 90 95  
 Ile Leu Pro Thr Thr Val Pro Ser  
 100

<210> 50  
 <211> 99  
 <212> PRT  
 <213> Xenopus laevis

<400> 50  
 Met Pro Lys Cys Phe Val Gln Ser Cys Pro His Tyr Thr Gly Arg Asn  
 1 5 10 15  
 Gly Lys Pro Asp Asn Val Ile Leu His Thr Phe Pro Arg Cys Lys Lys  
 20 25 30  
 Gln Val Gln Val Trp Leu Ser Arg Thr Gly Glu Arg Tyr Glu Asn Met  
 35 40 45

Ala Glu Phe Val Thr Tyr Ile Thr Gln Arg Cys Ser Asn Phe Arg Met  
50 55 60  
Cys Ser Glu His Phe Thr Asp Asp Cys Tyr Ile Thr Val Glu Gly Lys  
65 70 75 80  
Arg Arg Leu Met Glu Asn Ser Ala Pro Thr Ile Phe Lys Thr Thr Phe  
85 90 95  
Arg Gln Asn

<210> 51  
<211> 104  
<212> PRT  
<213> Xenopus laevi

<400> 51  
Met Thr Lys Cys Ile Val Lys Gly Cys Arg His Thr Thr Gly Gln Lys  
1 5 10 15  
Leu Lys Phe Pro His Ile Val Met His Ala Phe Pro Ser Asn Leu Lys  
20 25 30  
Met Ile Lys Val Trp Leu Lys Gln Thr Gly Gln Tyr Gly Asn Asn Leu  
35 40 45  
Glu Glu Met Ala Leu Lys Val Leu Gly Gly Lys Lys Ser Asp Ser Tyr  
50 55 60  
Arg Leu Cys Ser Ala His Phe Thr Val Asp Ser Tyr Ala Leu Arg Arg  
65 70 75 80  
Ser Lys Asn Met Leu Lys Lys Asp Ala Phe Pro Thr Leu Phe Gly Gln  
85 90 95  
Asn Gln Ile Asn Ala Ala Asn Val  
100

<210> 52  
<211> 84  
<212> PRT  
<213> Xenopus laevi

<400> 52  
Met Pro Lys Cys Ile Val Ile His Cys Pro His Ser Cys Ser Lys Lys  
1 5 10 15  
Val Thr Lys Asn Thr Gly Val Val Met His Thr Phe Pro Phe Asn Leu  
20 25 30  
Asp Arg Ile Lys Asn Trp Leu Leu Ser Ile Asp Gln Asn Phe Gly Asn  
35 40 45  
Ile Asp Thr Leu Ala Asn Arg Ile Leu Glu Glu Lys Lys Lys His Ser  
50 55 60  
Asp Leu Tyr Arg Leu Cys Ser Glu His Phe Thr Pro Gln Cys Tyr Ile  
65 70 75 80  
Ser Thr Gly Glu

<210> 53  
<211> 104  
<212> PRT  
<213> Xenopus laevi

<400> 53

```
Met Pro Ser Cys Ile Val Lys Gly Cys Pro His Arg Thr Gly Gln Lys
 1                    5                    10                    15
Asp Lys Phe Pro Asn Val Thr Leu His Asn Phe Pro Lys Thr Ile Pro
                20                    25                    30
Lys Ile Lys Asn Trp Leu Trp Gln Thr Gly Gln Tyr Gly Glu Asp Ser
            35                    40                    45
Asp Ala Ile Ala Glu Glu Ile Leu Gln Gly Leu Lys Thr Cys Arg His
            50                    55                    60
Arg Met Cys Ser Met His Phe Ser Glu Asn Cys Phe Ile Thr Leu Gly
65                    70                    75                    80
Ser Lys Arg Val Leu Thr Arg Asn Ala Val Pro Thr Ile Phe Lys Pro
            85                    90                    95
Gln Thr Thr Pro Ala Ile Leu Ala
                100
```

<210> 54

<211> 104

<212> PRT

<213> *Xenopus laevis*

<400> 54

```
Met Pro Lys Cys Ile Leu Asn Gly Cys Pro Tyr Arg Thr Gly Gln Lys
 1                    5                    10                    15
Leu Lys Phe Pro Asp Ile Val Leu His Pro Phe Pro Lys Ser Met Glu
                20                    25                    30
Met Ile Arg Asn Trp Leu Phe Gln Thr Gly Gln His Ala Glu Asp Val
            35                    40                    45
Glu Ser Leu Ser Gln Arg Ile Tyr Gln Gly Leu Lys Thr Ser Asn Phe
            50                    55                    60
Arg Met Cys Ser Lys His Phe Thr Gln Asp Cys Tyr Met Gln Val Gly
65                    70                    75                    80
Ser Arg Lys Cys Leu Lys Pro Asn Ala Val Pro Thr Val Phe Glu Ser
            85                    90                    95
Tyr Asn Val Pro Val Thr Thr Phe
                100
```

<210> 55

<211> 105

<212> PRT

<213> *Xenopus laevis*

<400> 55

```
Asn Asn Ala Ser Cys Ile Val Arg Gly Cys His His Ser Thr Ala Arg
 1                    5                    10                    15
Lys Cys Leu Ser Pro Gly Ile Ala Leu His Gly Phe Pro Asn Asn Leu
                20                    25                    30
Ser Arg Ile Lys Gln Trp Leu Val Asn Ile Gly Gln Asn Val Gly Asp
            35                    40                    45
Ile Asp Asp Phe Ala Gln Lys Val Leu Asp Gly Lys Lys Gln Asn Ser
            50                    55                    60
Tyr Arg Ile Cys Ser Ala His Phe Ser Ser Asp Cys Phe Val Gln Phe
65                    70                    75                    80
Gly Tyr Ser Lys Gly Leu Lys Ala Asp Ala Val Pro Thr Ile Phe Ala
            85                    90                    95
```

Trp Asn Thr Pro Glu Ser Arg Gly Arg  
 100 105

<210> 56  
 <211> 107  
 <212> PRT  
 <213> *Xenopus laevis*

<400> 56  
 Met Pro Ser Cys Ile Val Lys Gly Cys Arg His Lys Ser Gly Gln Lys  
 1 5 10 15  
 Val Leu Tyr Pro Asp Val Val Leu His Ser Phe Pro Asn Asn Ile His  
 20 25 30  
 Met Ile Lys Asn Trp Leu Leu Gln Thr Gly Gln Val Phe Gly Asp Ile  
 35 40 45  
 Asp Ala Phe Ala Glu Lys Val Leu Lys Gly Asn Lys Thr Ser Ala Phe  
 50 55 60  
 Arg Met Cys Ser Arg His Phe Thr Arg Asp Ser Tyr Met Ala Lys Gly  
 65 70 75 80  
 Ser Lys Ile Thr Leu Lys Pro Asn Ala Val Pro Thr Ile Phe Asn Thr  
 85 90 95  
 Leu Pro Pro Ala Ala Ala Val Pro Ser Leu Met  
 100 105

<210> 57  
 <211> 91  
 <212> PRT  
 <213> *Danio rerio*

<400> 57  
 Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Asn Asn Arg Tyr Gln Lys  
 1 5 10 15  
 Asp Arg Ile Ile Ser Phe His Lys Phe Pro Leu Ala Arg Pro Glu Val  
 20 25 30  
 Cys Val Gln Trp Val Ser Ala Met Ser Arg Arg Asn Phe Lys Pro Thr  
 35 40 45  
 Lys Tyr Ser Asn Ile Cys Ser Gln His Phe Thr Ser Asp Cys Phe Lys  
 50 55 60  
 Gln Glu Cys Asn Asn Arg Val Leu Lys Asp Asn Ala Val Pro Ser Leu  
 65 70 75 80  
 Phe Thr Leu Gln Thr Gln Asp Pro Phe Ser Ala  
 85 90

<210> 58  
 <211> 103  
 <212> PRT  
 <213> *Danio rerio*

<400> 58  
 Met Pro Arg His Cys Ser Ala Val Gly Cys Lys Ser Arg Asp Thr Lys  
 1 5 10 15  
 Asp Val Arg Lys Ser Gly Ile Thr Phe His Arg Leu Pro Lys Lys Gly  
 20 25 30  
 Asn Pro Arg Arg Thr Thr Trp Ile Ile Asn Ser Arg Arg Lys Gly Pro

	35					40				45									
Glu	Gly	Lys	Gly	Gln	Trp	Asp	Pro	Gln	Ser	Gly	Phe	Ile	Tyr	Phe	Cys				
	50					55					60								
Ser	Lys	His	Phe	Thr	Pro	Asp	Ser	Phe	Glu	Leu	Ser	Gly	Val	Ser	Gly				
65					70					75					80				
Tyr	His	Arg	Leu	Lys	Asp	Asp	Ala	Ile	Pro	Thr	Val	Phe	Glu	Ile	Glu				
			85						90					95					
Pro	His	Lys	Lys	Gly	Thr	Ala													
			100																

<210> 59  
 <211> 90  
 <212> PRT  
 <213> Danio rerio

<400> 59  
 Met Pro Gly Phe Thr Cys Cys Val Pro Gly Cys Tyr Asn Asn Ser His  
 1 5 10 15  
 Arg Asp Arg Asp Leu Arg Phe Tyr Thr Phe Pro Lys Asp Pro Thr Gln  
 20 25 30  
 Arg Glu Ile Trp Leu Lys Asn Ile Ser Arg Ala Gly Val Ser Gly Cys  
 35 40 45  
 Phe Ser Thr Phe Gln Pro Thr Thr Gly His Arg Val Cys Ser Val His  
 50 55 60  
 Phe Pro Gly Gly Arg Lys Thr Tyr Thr Ile Arg Val Pro Thr Leu Phe  
 65 70 75 80  
 Pro Leu Arg Gly Val Asn Glu Arg Arg Ser  
 85 90

<210> 60  
 <211> 96  
 <212> PRT  
 <213> Danio rerio

<400> 60  
 Met Pro Asn Phe Cys Ala Ala Leu Asn Cys Ser Arg Asn Ser Thr His  
 1 5 10 15  
 Ser Val Leu Ala Phe Phe Arg Phe Pro Arg Asp Pro Glu Arg Cys Lys  
 20 25 30  
 Lys Trp Val Glu Asn Cys Ser Arg Ser Asp Leu Lys Asp Lys Thr Pro  
 35 40 45  
 Asp His Leu Asn Lys Tyr His Arg Leu Cys Ala Arg His Phe Glu Pro  
 50 55 60  
 Asn Leu Ile Thr Lys Thr Ser Pro Phe Arg Thr Val Leu Lys Asp Ser  
 65 70 75 80  
 Ala Val Pro Thr Ile Phe Asp Asn Pro Phe Lys Arg Ser Asn Asn Glu  
 85 90 95

<210> 61  
 <211> 99  
 <212> PRT  
 <213> Danio rerio

<400> 61

Met Pro Tyr Lys Cys Val Ala Tyr Gly Cys Gly Lys Ile Ser Gly Gln  
1 5 10 15  
Asn Val Ser Met Phe Arg Phe Pro Lys Asp Pro Glu Glu Phe Ser Lys  
20 25 30  
Trp Gln Arg Gln Val Gln Lys Thr Arg Arg Asn Trp Leu Ala Asn Thr  
35 40 45  
Tyr Ser His Leu Cys Asn Glu His Phe Thr Lys Asp Cys Phe Glu Pro  
50 55 60  
Lys Thr Tyr Val Thr Ala Lys Ala Ser Gly Phe Lys Arg Leu Lys Leu  
65 70 75 80  
Lys Asp Gly Ala Val Pro Thr Val Phe Ile Arg Arg Arg Cys Arg Lys  
85 90 95  
Cys Gly Gly

<210> 62  
<211> 90  
<212> PRT  
<213> Danio rerio

<400> 62  
Met Gly Gly Cys Ser Ala Pro Asn Cys Ser Asn Ser Thr Thr Ile Gly  
1 5 10 15  
Lys Gln Leu Phe Arg Phe Pro Lys Asp Pro Val Arg Met Arg Lys Trp  
20 25 30  
Leu Val Asn Cys Arg Arg Asp Phe Val Pro Thr Pro Cys Ser Arg Leu  
35 40 45  
Cys Gln Asp His Phe Glu Glu Ser Gln Phe Glu Glu Ile Ala Arg Ser  
50 55 60  
Pro Ala Gly Gly Arg Lys Leu Lys Pro Asn Ala Ile Pro Thr Leu Phe  
65 70 75 80  
Asn Val Pro Asp Pro Pro Ser Pro Val Thr  
85 90

<210> 63  
<211> 105  
<212> PRT  
<213> Danio rerio

<400> 63  
Met Val Leu Asn Cys Ala Tyr Pro Gly Cys Leu Asn Leu Phe Lys Lys  
1 5 10 15  
Glu Arg Leu Arg Ser Asn Ser Ser Ser His Gly Gly Lys Leu Thr Phe  
20 25 30  
His Arg Phe Pro Thr Leu Glu Pro Gly Arg Leu Leu Leu Trp Arg Ala  
35 40 45  
Ala Leu Gly Met Asp Pro Asp Thr Pro Met Arg Ser Leu Arg Val Trp  
50 55 60  
Arg Ile Cys Ser Glu His Phe Ser Pro Glu Asp Phe Arg Ala Val Asn  
65 70 75 80  
Gly Asn Lys Val Leu Leu Lys Ala Ser Ala Val Pro Arg Val Tyr Ser  
85 90 95  
Thr Pro Ala Pro Gly Ser Arg Ala Asp  
100 105

<210> 64  
 <211> 99  
 <212> PRT  
 <213> Danio rerio

<400> 64  
 Met Ala Ser Ser Arg Arg Cys Tyr Cys Ser Val Pro Gly Cys Ser Asn  
 1 5 10 15  
 Ser Lys Lys Arg His Pro Tyr Leu Ser Phe His Asp Phe Pro Lys Asp  
 20 25 30  
 Glu Gly Gln Arg Lys Ser Trp Val Lys Phe Ile Arg Arg Glu Glu Gly  
 35 40 45  
 Pro Phe Phe Gln Ile Lys Arg Gly Ser Thr Phe Val Cys Ser Met His  
 50 55 60  
 Phe Lys Ala Asp Asp Ile Tyr Thr Thr Ile Ser Gly Arg Arg Lys Ile  
 65 70 75 80  
 Asn Pro Gly Ala Ala Pro Arg Leu Phe Ser Trp Asn Asn Trp Ser Thr  
 85 90 95  
 Asp Lys Val

<210> 65  
 <211> 66  
 <212> PRT  
 <213> Danio rerio

<400> 65  
 Phe Pro Lys Glu Asn Val Leu Arg Lys Gln Trp Glu Ile Ala Leu Lys  
 1 5 10 15  
 Arg Lys Gly Phe Ser Ala Ser Glu Ser Ser Val Leu Cys Ser Glu His  
 20 25 30  
 Phe Arg Pro Gln Asp Leu Asp Arg Thr Gly Gln Thr Val Arg Val Arg  
 35 40 45  
 Asp Gly Ala Lys Pro Ser Val Phe Ser Phe Pro Ala His Met Gln Lys  
 50 55 60  
 His Val  
 65

<210> 66  
 <211> 93  
 <212> PRT  
 <213> Danio rerio

<400> 66  
 Ser Ser Glu His Cys Cys Val Pro Leu Cys Gly Ala Ser Ser Arg Phe  
 1 5 10 15  
 Asn Ser Ala Val Ser Phe His Thr Phe Pro Val Ser Thr Glu Ile Arg  
 20 25 30  
 Glu Lys Trp Ile Lys Asn Ile Arg Arg Glu Lys Leu Asn Ile Thr Tyr  
 35 40 45  
 His Thr Arg Val Cys Cys Arg His Phe Thr Thr Asp Asp Leu Ile Gln  
 50 55 60  
 Pro Arg Asn Pro Ile Gly Arg Arg Leu Leu Arg Lys Gly Ala Val Pro  
 65 70 75 80



Thr Leu Phe Lys Trp Asn Gly Tyr Ser Asp Ala Glu Ala  
85 90

<210> 67  
<211> 93  
<212> PRT  
<213> Danio rerio

<400> 67  
Met Pro Asp Phe Cys Ala Ala Tyr Gly Cys Ser Asn Glu Arg Thr Lys  
1 5 10 15  
Lys Leu Lys Asp Lys Gly Ile Thr Phe His Arg Phe Pro Arg Asp Val  
20 25 30  
Lys Arg Arg Gln Ala Trp Thr Leu Ala Leu Arg Arg Asp Lys Phe Glu  
35 40 45  
Pro Lys Pro Arg Ser Leu Leu Cys Ser Cys His Phe Arg Pro Glu Asp  
50 55 60  
Phe Asp Arg Thr Gly Gln Thr Val Arg Leu Arg Asp Gly Val Ile Pro  
65 70 75 80  
Ser Ile Phe Asn Phe Ser Asn Pro Leu Ser Lys Leu Ser  
85 90

<210> 68  
<211> 97  
<212> PRT  
<213> Danio rerio

<400> 68  
Met Pro Val Cys Ser Ala Tyr Lys Cys Lys Lys Arg Ser Asp Arg Glu  
1 5 10 15  
Tyr Lys Glu Ala Tyr Lys Arg Gly Glu Phe Ser Phe His Lys Phe Pro  
20 25 30  
Leu Glu Asp Gly Leu Arg Val Arg Glu Trp Leu Arg Arg Met Arg Trp  
35 40 45  
Gln Asn Trp Trp Pro Thr Gly Asn Ser Val Leu Cys Ser Asp His Phe  
50 55 60  
Glu Lys Asp Cys Phe Glu Gln Val Gly Ser His Lys Arg Leu Arg Lys  
65 70 75 80  
Ser Ala Val Pro Thr Ile Phe Asn Phe Pro Lys His Leu Gln Trp Lys  
85 90 95  
Val

<210> 69  
<211> 90  
<212> PRT  
<213> Danio rerio

<400> 69  
Met Val Leu Val Cys Ser Ala Tyr Asn Cys Lys Asn Thr Leu Arg Asn  
1 5 10 15  
Lys Ser Val Ser Phe His Leu Phe Pro Leu Lys Asp Pro Ser Leu Leu  
20 25 30  
Lys Lys Trp Leu Lys Asn Leu Arg Trp Lys Asp Trp Lys Pro Asn Pro

35 40 45  
 Asn Ser Lys Ile Cys Ser Ala His Phe Glu Glu Lys Cys Phe Ile Leu  
 50 55 60  
 Glu Gly Lys Lys Thr Arg Leu His Thr Trp Ala Val Pro Thr Ile Phe  
 65 70 75 80  
 Ser Phe Pro Asn Arg Phe Ser Glu Arg Asn  
 85 90

<210> 70  
 <211> 107  
 <212> PRT  
 <213> Danio rerio

<400> 70  
 Met Asn Ser Ile Ser Leu Lys Tyr Leu Arg Arg Glu Cys Ala Tyr Ser  
 1 5 10 15  
 Arg Tyr Cys Cys Val Pro Phe Cys Lys Ile Ser Ser Arg Phe Asn Ser  
 20 25 30  
 Val Ile Ser Phe His Lys Leu Pro Leu Asp Arg Ala Thr Arg Lys Met  
 35 40 45  
 Trp Leu His Asn Ile Arg Arg Lys Thr Phe Glu Val Ser Pro His Val  
 50 55 60  
 Arg Val Cys Ser Arg His Phe Thr Asn Asp Asp Phe Ile Glu Pro Ser  
 65 70 75 80  
 Tyr Pro Thr Ala Arg Arg Leu Leu Lys Lys Gly Ala Val Pro Thr Leu  
 85 90 95  
 Phe Arg Trp Asn Asn Asp Ser Thr Ser Gly Gln  
 100 105

<210> 71  
 <211> 89  
 <212> PRT  
 <213> Danio rerio

<400> 71  
 Leu Arg Leu Arg Gln Ser Ala Ser Ser His Glu Glu Ser Leu Thr Phe  
 1 5 10 15  
 Tyr Ser Leu Pro Leu Gln Asp Phe Lys Arg Leu Asn Leu Trp Leu Asn  
 20 25 30  
 Ala Val Arg Arg Asp Thr Lys Ser Ser Ile Arg Asn Ile Arg Gly Leu  
 35 40 45  
 Arg Val Cys Ser Glu His Phe Ala Gln Asp Asp Phe Ser Leu Asn Arg  
 50 55 60  
 Gly Ser Lys Arg Arg Leu Lys Ser Thr Ala Val Pro Lys Cys Asn Glu  
 65 70 75 80  
 Ala Leu Pro Gln Ile Arg Arg Ala Gly  
 85

<210> 72  
 <211> 105  
 <212> PRT  
 <213> Danio rerio

<400> 72

Met	Val	Ile	Thr	Cys	Ala	Cys	Pro	Gly	Cys	Asp	Asn	Arg	Tyr	Lys	Thr
1				5					10					15	
Leu	Arg	Leu	Arg	Ser	Asp	Ser	Lys	Phe	His	Pro	Gly	Lys	Leu	Thr	Phe
			20					25					30		
His	Lys	Phe	Pro	Thr	Ser	Asp	Pro	Glu	Arg	Leu	Lys	Leu	Trp	Leu	Leu
		35					40					45			
Ala	Leu	Gly	Leu	Asp	Ile	Asn	Thr	Pro	Leu	Ser	Val	Leu	Glu	Thr	Arg
		50				55					60				
Arg	Ile	Cys	Ser	Asp	His	Phe	Ser	Pro	Phe	Asp	Phe	Lys	Asp	Thr	Lys
65					70					75					80
Gly	Ser	Ile	Val	Gln	Leu	Lys	Ser	Trp	Ala	Val	Pro	Met	Asn	Leu	Ser
			85						90					95	
Glu	Gln	Phe	Val	Asp	Asp	Pro	Ser	Lys							
			100					105							

<210> 73  
 <211> 96  
 <212> PRT  
 <213> Danio rerio

Met	Pro	Asp	Cys	Cys	Ala	Ala	Ala	Asn	Cys	Lys	Gln	Ser	Thr	Asp	Gln
1				5					10					15	
Ser	Ser	Val	Ser	Phe	Phe	Glu	Phe	Pro	Leu	Asp	Pro	Asp	Arg	Cys	Arg
			20					25					30		
Gln	Trp	Val	Gly	Arg	Cys	Asn	Arg	Pro	Asp	Leu	Gln	Thr	Lys	Thr	Pro
		35				40						45			
Glu	Asp	Leu	His	Lys	Asn	Tyr	Lys	Val	Cys	Ser	Arg	His	Phe	Glu	Thr
		50				55					60				
Ser	Met	Ile	Cys	Gln	Gln	Ser	Ala	Val	Lys	Cys	Ile	Leu	Lys	Asp	Asp
65					70					75					80
Ala	Val	Pro	Thr	Leu	Phe	Asn	Phe	Ser	Thr	Asn	Gln	Asp	Asn	Ala	Gln
				85					90					95	

<210> 74  
 <211> 91  
 <212> PRT  
 <213> Danio rerio

Met	Val	Lys	Cys	Thr	Val	Gln	Gly	Cys	Ile	Asn	Phe	Ser	Asp	Leu	Arg
1				5					10					15	
Pro	Glu	Glu	Gln	Pro	Asn	Arg	Pro	Arg	Lys	Arg	Phe	Phe	Arg	Phe	Pro
			20					25					30		
Lys	Asp	Lys	Val	Leu	Val	Lys	Val	Trp	Leu	Ala	Ala	Leu	Arg	Asp	Thr
		35				40						45			
Glu	Arg	Glu	Ile	Thr	Asp	Leu	His	Arg	Ile	Cys	Glu	Asp	His	Phe	Leu
		50				55					60				
Ser	His	His	Ile	Thr	Ala	Asp	Gly	Ile	Ser	Pro	Asp	Ala	Ile	Pro	Ile
65					70					75					80
Met	Pro	Pro	Leu	Asp	Gly	Pro	Val	Gly	Asn	Trp					
				85					90						

<210> 75

<211> 84  
 <212> PRT  
 <213> Danio rerio

<400> 75  
 Met Pro Ile Ser Cys Ser Ala Val Asp Cys Ser Asn Arg Phe Val Lys  
 1 5 10 15  
 Gly Ser Glu Ile Arg Phe Tyr Arg Phe Pro Ile Ser Lys Pro Gln Leu  
 20 25 30  
 Ala Glu Gln Trp Val Arg Ser Leu Gly Arg Lys Asn Phe Val Pro Thr  
 35 40 45  
 Gln Asn Ser Cys Leu Cys Ser Glu His Phe Gln Pro Asp Cys Phe Arg  
 50 55 60  
 Asp Tyr Asn Gly Lys Leu Phe Leu Arg Glu Asp Ala Val Pro Thr Ile  
 65 70 75 80  
 Phe Ser Asn Ser

<210> 76  
 <211> 95  
 <212> PRT  
 <213> Oryzias latipes

<400> 76  
 Met Pro Asn Phe Cys Ala Ala Pro Asn Cys Thr Arg Lys Ser Thr Gln  
 1 5 10 15  
 Ser Asp Leu Ala Phe Phe Arg Phe Pro Arg Asp Pro Glu Arg Cys Arg  
 20 25 30  
 Ile Trp Val Glu Asn Cys Arg Arg Ala Asp Leu Glu Ala Lys Thr Ala  
 35 40 45  
 Asp Gln Leu Asn Lys His Tyr Arg Leu Cys Ala Lys His Phe Asp Pro  
 50 55 60  
 Ala Met Val Cys Lys Thr Ser Pro Tyr Arg Thr Val Leu Lys Asp Thr  
 65 70 75 80  
 Ala Ile Pro Thr Ile Phe Asp Leu Thr Ser His Leu Lys Asn Pro  
 85 90 95

<210> 77  
 <211> 90  
 <212> PRT  
 <213> Oryzias latipes

<400> 77  
 Met Pro Thr Gly Cys Ala His Ala Asn Cys Arg Asn Val Val Gly Lys  
 1 5 10 15  
 Phe Arg Gly Val Thr Phe His Lys Phe Pro Arg Asp Pro Glu Lys Leu  
 20 25 30  
 Ser Arg Trp Thr Lys Phe Met Lys Arg His Glu Ser Trp Val Pro Lys  
 35 40 45  
 Tyr Tyr Asp Arg Val Cys Ser Val His Phe Ser Ser Glu His Phe Asp  
 50 55 60  
 Arg Thr Gly Gln Thr Val Arg Leu Arg Asp Asn Ala Glu Pro Ser Leu  
 65 70 75 80  
 Pro His Leu Pro Trp Arg Phe Pro Lys Ser  
 85 90

<210> 78  
 <211> 94  
 <212> PRT  
 <213> *Oryzias latipes*

<400> 78  
 Met Gln Asn Arg Cys Ala Val Leu Thr Cys Pro Ser Gly Lys Thr Asp  
 1 5 10 15  
 Phe Gln Pro Met Phe Arg Phe Pro His Asp Gln Glu Arg Ser Arg Arg  
 20 25 30  
 Trp Val Glu Lys Cys Gln Gly Glu Asn Leu Ile Gly Lys Ser Pro Glu  
 35 40 45  
 Gln Leu Tyr Arg Tyr Tyr Arg Ile Cys Lys Arg His Phe Glu Thr Ser  
 50 55 60  
 Ala Phe Asp Cys Asp Ala Asp Gly Ala Val Leu Lys Lys Asp Ala Val  
 65 70 75 80  
 Pro Thr Ile Phe Asp Ala Ser Val Pro Pro Gln Ser Ser Gln  
 85 90

<210> 79  
 <211> 92  
 <212> PRT  
 <213> *Drosophila melanogaster*

<400> 79  
 Met Pro Ala His Cys Ala Val Ile Asn Cys Ser His Lys Tyr Val His  
 1 5 10 15  
 Ala Gly Ser Ile Ser Phe His Arg Phe Pro Phe Lys Arg Lys Asp Leu  
 20 25 30  
 Leu Gln Lys Trp Lys Glu Phe Thr Gln Arg Ser Ala Gln Trp Met Pro  
 35 40 45  
 Ser Lys Trp Ser Ala Leu Cys Ser Arg His Phe Gly Asp Glu Asp Phe  
 50 55 60  
 Asn Cys Ser Asn Asn Arg Lys Thr Leu Lys Lys Asn Ala Val Pro Ser  
 65 70 75 80  
 Ile Arg Val Ser Glu Asp Asp Ser Met Ser Gly His  
 85 90

<210> 80  
 <211> 90  
 <212> PRT  
 <213> *Drosophila melanogaster*

<400> 80  
 Met Pro Thr Ile Arg Arg Cys Cys Ile Ile Gly Cys Leu Ser Asn Ser  
 1 5 10 15  
 Arg Gln His Pro Ser Met Gln Phe Phe Ala Phe Pro Arg Pro Glu Asn  
 20 25 30  
 Pro Phe His Lys Leu Trp Lys Glu Ala Cys His Ala Ser Leu Arg Arg  
 35 40 45  
 Ile Val Pro Phe Lys Lys Pro Val Val Cys Ala Leu His Phe Asp Pro  
 50 55 60  
 Ser Val Leu Gly Gly Arg Arg Leu Gln Ser Asn Ala Leu Pro Thr Leu

65		70		75		80
Arg	Leu	Glu	Val	Pro	Ser	Asn
				Leu	Glu	Ala
		85				90

<210> 81  
 <211> 104  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 81

Met	Arg	Cys	Ala	Val	Pro	Asn	Cys	Arg	Asn	Phe	Ser	Asp	Cys	Arg	Ser
1				5					10					15	
Lys	Arg	Asn	Ala	Ala	Gln	Gln	Gln	Arg	Leu	Gly	Phe	Phe	Arg	Phe	Pro
			20					25					30		
Lys	Cys	Pro	Asp	Thr	Phe	Lys	Ala	Trp	Leu	Ala	Phe	Cys	Gly	Tyr	Thr
		35					40					45			
Glu	Glu	Ser	Leu	Lys	Leu	Lys	Asn	Pro	Cys	Ile	Cys	Ile	Glu	His	Phe
	50					55					60				
Lys	Asp	Glu	Asp	Ile	Glu	Gly	Ser	Leu	Lys	Phe	Glu	Met	Gly	Leu	Ala
65					70					75					80
Lys	Lys	Arg	Thr	Leu	Arg	Pro	Gly	Ala	Val	Pro	Cys	Val	Asn	Lys	Ser
				85					90					95	
Gln	Glu	Ser	Gly	Ser	Asp	Arg	Ala								
			100												

<210> 82  
 <211> 96  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 82

Met	Gly	Gly	Thr	Lys	Cys	Cys	Phe	Arg	Asp	Cys	Pro	Val	Gly	Ser	Ser
1				5					10					15	
Arg	Asn	Pro	Asn	Met	His	Phe	Phe	Lys	Phe	Pro	Val	Lys	Asp	Pro	Lys
			20					25					30		
Arg	Leu	Lys	Asp	Trp	Val	Arg	Asn	Cys	Ser	Asn	Pro	Asp	Val	Ser	Asn
		35					40					45			
Ala	Pro	Pro	Ser	Lys	Leu	Ala	Ala	Lys	Thr	Val	Cys	Ala	Arg	His	Phe
	50					55					60				
Arg	Ala	Glu	Cys	Phe	Met	Asn	Tyr	Lys	Met	Asp	Arg	Leu	Ile	Pro	Met
65					70					75					80
Gln	Thr	Pro	Thr	Leu	Phe	Arg	Ile	Asn	Arg	Asp	Leu	Ala	Leu	Asp	Tyr
				85					90					95	

<210> 83  
 <211> 96  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 83

Met	Ala	Thr	Arg	Ser	Cys	Ala	Tyr	Lys	Asp	Cys	Glu	Tyr	Tyr	Tyr	Val
1				5					10					15	
Gly	His	Glu	Asn	Ala	Leu	Thr	Lys	Gly	Arg	Thr	Leu	Phe	Ala	Phe	Pro
			20					25					30		

Lys	Gln	Pro	Gln	Arg	Ala	Arg	Ile	Trp	His	Glu	Asn	Gly	Gln	Val	His
		35					40					45			
Pro	Lys	Ile	Pro	His	Ser	Gln	Leu	Phe	Met	Cys	Ser	Leu	His	Phe	Asp
	50					55				60					
Arg	Lys	Phe	Ile	Ser	Ser	Ser	Lys	Asn	Arg	Thr	Leu	Leu	Val	Gly	Glu
65					70					75					80
Ala	Val	Pro	Phe	Pro	Tyr	Glu	Glu	Ser	Ser	Ser	Lys	Pro	Glu	Glu	Glu
				85					90					95	

<210> 84

<211> 87

<212> PRT

<213> *Drosophila melanogaster*

<400> 84

Met	Lys	Tyr	Cys	Lys	Phe	Cys	Cys	Lys	Ala	Val	Thr	Gly	Val	Lys	Leu
1				5					10					15	
Ile	His	Val	Pro	Lys	Cys	Ala	Ile	Lys	Arg	Lys	Leu	Trp	Glu	Gln	Ser
			20					25					30		
Leu	Gly	Cys	Ser	Leu	Gly	Glu	Asn	Ser	Gln	Ile	Cys	Asp	Thr	His	Phe
		35					40					45			
Asn	Asp	Ser	Gln	Trp	Lys	Ala	Ala	Pro	Ala	Lys	Gly	Gln	Thr	Phe	Lys
	50					55					60				
Arg	Arg	Arg	Leu	Asn	Ala	Asp	Ala	Val	Pro	Ser	Lys	Val	Ile	Glu	Pro
65					70					75					80
Glu	Pro	Glu	Lys	Ile	Lys	Glu									
				85											

<210> 85

<211> 92

<212> PRT

<213> *Anopheles gambiae*

<400> 85

Met	Pro	Ala	Ser	Cys	Val	Ile	Pro	Asp	Cys	Asp	Leu	Lys	Tyr	Thr	His
1				5					10					15	
Gly	Asp	Asp	Val	Ser	Phe	His	Lys	Phe	Pro	Leu	Lys	Ser	Pro	Glu	Leu
			20					25					30		
Leu	Lys	Gln	Trp	Ile	Gln	Phe	Thr	Gly	Arg	Asp	Glu	Gly	Trp	His	Pro
		35					40					45			
Thr	Lys	Trp	Ser	Ala	Leu	Cys	Ser	Arg	His	Phe	Val	Ala	Ser	Asp	Phe
	50					55					60				
Lys	Gly	Cys	Ala	Ala	Arg	Lys	Ile	Leu	Leu	Pro	Thr	Ala	Val	Pro	Ser
65					70					75					80
Val	Arg	Asn	Ala	Val	Ala	Ala	Lys	Ala	Gln	Pro	Asn				
				85					90						

<210> 86

<211> 108

<212> PRT

<213> *Anopheles gambiae*

<400> 86

Met Ser Ala Val Arg Ser Cys Ala Leu Cys Gln Asn Arg Ser Asn Ile

1				5					10					15		
Thr	Asp	Gln	Gln	Thr	Asp	Asp	Ala	Leu	Glu	Arg	Ile	Thr	Tyr	His	Lys	
			20					25					30			
Phe	Pro	Thr	Asn	Pro	Val	Arg	Arg	Asp	Arg	Trp	Ile	Glu	Phe	Cys	Asp	
		35					40					45				
Leu	Pro	Lys	Glu	Ser	Phe	Pro	Lys	Ser	Ala	Tyr	Lys	Phe	Leu	Cys	Ser	
	50					55					60					
Ser	His	Phe	Thr	Pro	Glu	Cys	Phe	Glu	Arg	Asp	Leu	Arg	Gly	Glu	Leu	
65					70					75					80	
Leu	Tyr	Gly	Thr	Lys	Arg	Met	Thr	Leu	Gln	Lys	Asp	Ala	Met	Pro	Thr	
				85				90					95			
Ile	Arg	Ser	Val	Ser	Gln	Gln	Leu	Lys	Arg	Thr	Thr					
			100					105								

<210> 87

<211> 100

<212> PRT

<213> Anopheles gambiae

<400> 87

Met	Trp	Asp	Cys	Ala	Val	Ile	Gly	Cys	Pro	Asn	Ser	Arg	Phe	Asn	Ala	
1				5				10					15			
Gln	Lys	Thr	Arg	Pro	Arg	Ile	Ser	Phe	His	Val	Phe	Pro	His	Pro	Val	
		20					25					30				
Arg	Glu	Ser	Asn	Arg	Phe	Arg	Arg	Trp	Leu	Ala	Leu	Ile	Asn	Asn	Pro	
	35					40					45					
Arg	Leu	Phe	Arg	Leu	Asp	Pro	Leu	Asn	Val	Phe	Lys	Ser	Val	Arg	Val	
	50				55					60						
Cys	Arg	Arg	His	Phe	Gly	Pro	Asp	Cys	Phe	Asn	Gly	Val	Cys	Arg	Asn	
65				70				75							80	
Leu	Leu	Pro	Thr	Ala	Ile	Pro	Thr	Leu	Asn	Leu	Pro	Glu	Val	Arg	Pro	
				85				90					95			
Val	Ala	Leu	Val													
			100													

<210> 88

<211> 95

<212> PRT

<213> Anopheles gambiae

<400> 88

Met	Gly	Ile	Arg	Lys	Cys	Ile	Val	Pro	Glu	Cys	Pro	Ser	Ser	Ser	Ala	
1				5				10					15			
Arg	Pro	Glu	Asp	Arg	Gly	Val	Thr	Tyr	His	Lys	Ile	Pro	Tyr	Leu	Asp	
		20					25					30				
Glu	Met	Lys	Arg	Leu	Trp	Ile	Val	Ala	Cys	His	Leu	Pro	Asp	Asp	Tyr	
	35					40					45					
Phe	Ala	Thr	Lys	Ala	Ser	Asn	Val	Cys	Ser	Arg	His	Phe	Arg	Arg	Ala	
	50				55					60						
Asp	Phe	Gln	Glu	Phe	Lys	Gly	Lys	Lys	Tyr	Val	Leu	Lys	Leu	Gly	Val	
65				70				75							80	
Val	Pro	Thr	Val	Phe	Pro	Trp	Thr	Val	Thr	Lys	Pro	Pro	Gly	Glu		
				85				90					95			



<210> 89  
 <211> 107  
 <212> PRT  
 <213> Anopheles gambiae

<400> 89  
 Met Gly Lys Ile Ser Gly Ser His Cys Leu Val Leu Gly Cys Arg Asn  
 1 5 10 15  
 Arg Gln Leu Leu Asn Gln Ala Asn Ile Arg Ser Tyr Phe Arg Phe Pro  
 20 25 30  
 Arg Asp Ala Asp Leu Cys Lys Lys Trp Val Asp Phe Cys Asn Arg Pro  
 35 40 45  
 Glu Leu Tyr Lys Lys Tyr Asp Glu Asn Gly Pro Glu Tyr Leu Tyr Lys  
 50 55 60  
 Ser Ser Arg Ile Cys Ser Asp His Phe Gln Pro Ala Asp Phe Asn Asn  
 65 70 75 80  
 Pro Asn Leu Phe Ser Gln Gly Leu Lys Lys Gly Ser Val Pro Ser Val  
 85 90 95  
 Asn Pro Ala Asn Leu Glu Ala Ala Lys Pro His  
 100 105

<210> 90  
 <211> 104  
 <212> PRT  
 <213> Anopheles gambiae

<400> 90  
 Met Thr Asn Cys Ser Cys Ala Val Ala Asp Cys Asn Asn Asn Arg Arg  
 1 5 10 15  
 Asn Val Arg Lys Arg Met Leu Asp Ile Gly Phe His Thr Phe Pro Ser  
 20 25 30  
 Asp Pro Val Gln Arg Gln Arg Trp Val Lys Phe Cys Gln Arg Glu Pro  
 35 40 45  
 Ser Trp Gln Pro Lys Ser Cys Asp Ser Met Cys Ser Val His Phe Lys  
 50 55 60  
 Asp Thr Asp Tyr Gln Met Ser His Ser Pro Leu Ile Arg Leu Ala Thr  
 65 70 75 80  
 Asn Leu Arg Arg Leu Lys Pro Asp Val Ile Pro Thr Ile Arg Lys Gly  
 85 90 95  
 Arg Ala Ile Pro Val Ala Ala Arg  
 100

<210> 91  
 <211> 95  
 <212> PRT  
 <213> Anopheles gambiae

<400> 91  
 Met Gly Gly Cys Arg Cys Thr Phe Arg Asp Cys Glu Asn Gly Thr Ala  
 1 5 10 15  
 Ser Arg Lys Glu Leu His Tyr Phe Arg Tyr Pro Val Arg Asp Gln Glu  
 20 25 30  
 Arg Leu Ile Glu Trp Ala Lys Asn Ala Asp Arg Leu Glu Phe Val Asp  
 35 40 45  
 Leu Pro Val Asp Lys Val Ser Asn Lys Val Val Cys Gln Glu His Phe

50                      55                      60  
 Glu Arg Lys Met Phe Met Asn Asp Leu Arg Asp Arg Leu Thr Lys Met  
 65                      70                      75                      80  
 Ala Ile Pro Arg Leu Met Val Met Pro Asp Glu Thr Ile Val Asn  
                     85                      90                      95

<210> 92  
 <211> 97  
 <212> PRT  
 <213> Anopheles gambiae

<400> 92  
 Met Lys Cys Phe Val Ser Gly Cys Asp Thr Asp Asp Asn Val Val Ser  
 1                      5                      10                      15  
 Tyr Thr Ser Val Phe Tyr Val Asn Cys Pro Thr Asp Pro Thr Ile Gln  
                     20                      25                      30  
 Gln Gln Trp Phe Thr Leu Leu Glu Val Thr Asp Pro Asp Ala Met Arg  
                     35                      40                      45  
 Ala Leu Val Asp Gly Arg Ser Lys Val Cys Ser Cys His Phe Thr Glu  
                     50                      55                      60  
 Asp Cys Phe Gly His His Pro Val Tyr Gly Tyr Arg Tyr Leu Leu Ala  
 65                      70                      75                      80  
 Thr Ala Leu Pro Thr Val Phe Pro Pro Arg Lys Glu Ile Glu Gln Pro  
                     85                      90                      95  
 Lys

<210> 93  
 <211> 92  
 <212> PRT  
 <213> Bombyx mori

<400> 93  
 Met Pro Arg Cys Ser Val Ile Val Cys Lys Asn Asn Ser Cys Ile Val  
 1                      5                      10                      15  
 Asn Tyr Lys Lys Asp Ser Ile Ser Phe His Thr Tyr Pro Lys Asp Pro  
                     20                      25                      30  
 Lys Ile Lys Glu Met Trp Ile Asn Ala Thr Gly Arg Gly Pro Ser Trp  
                     35                      40                      45  
 Phe Pro Thr Lys Asn His Thr Ile Cys Ser Ser His Phe Glu Pro Lys  
                     50                      55                      60  
 Cys Phe Gln Pro Leu Lys Lys Val Arg Arg Leu Phe Glu Trp Ser Val  
 65                      70                      75                      80  
 Pro Thr Leu Lys Leu Arg Met Val Leu Met Asn Tyr  
                     85                      90

<210> 94  
 <211> 96  
 <212> PRT  
 <213> Bombyx mori

<400> 94  
 Met Pro Asp Thr His Arg Thr Cys Glu Val Cys Gly Ile Lys Glu Arg  
 1                      5                      10                      15

His Leu Thr Glu Lys Arg Phe Phe Ala Arg Phe Pro Leu Asp Val Asn  
                   20                  25                  30  
 Arg Cys Lys Gln Trp Val Lys Met Val Gly Lys Glu Asp Leu Ala Tyr  
                   35                  40                  45  
 Leu Gln Val His Met Leu His Asp Leu Lys His Val Cys Glu Ala His  
                   50                  55                  60  
 Phe Ser Arg Arg Asp Phe Thr Lys Ser Lys Lys Arg Leu Lys Lys Arg  
 65                  70                  75                  80  
 Ala Val Pro Lys Leu Asn Leu Thr Leu Pro Pro Leu Arg Asp Glu Ile  
                   85                  90                  95

<210> 95

<211> 89

<212> PRT

<213> Caenorhabditis elegans

<400> 95

Met Pro Thr Thr Cys Gly Phe Pro Asn Cys Lys Phe Arg Ser Arg Tyr  
 1                  5                  10                  15  
 Arg Gly Leu Glu Asp Asn Arg His Phe Tyr Arg Ile Pro Lys Arg Pro  
                   20                  25                  30  
 Leu Ile Leu Arg Gln Arg Trp Leu Thr Ala Ile Gly Arg Thr Glu Glu  
                   35                  40                  45  
 Thr Val Val Ser Gln Leu Arg Ile Cys Ser Ala His Phe Glu Gly Gly  
                   50                  55                  60  
 Glu Lys Lys Glu Gly Asp Ile Pro Val Pro Asp Pro Thr Val Asp Lys  
 65                  70                  75                  80  
 Gln Ile Lys Ile Glu Leu Pro Pro Lys  
                   85

<210> 96

<211> 100

<212> PRT

<213> Caenorhabditis elegans

<400> 96

Met Tyr Gly Val Gln Ser Glu Cys Val Leu Cys Ala His Ala Asn Asp  
 1                  5                  10                  15  
 Cys Thr Ala Met Ile Pro Phe Pro Gly Pro Asp Asp Glu Lys Leu Arg  
                   20                  25                  30  
 Thr Lys Trp Ile Asn Ser Met Cys Arg Glu Pro Trp Ile Tyr Arg Tyr  
                   35                  40                  45  
 Leu Ser Thr Arg Leu Glu Lys Pro Gly Arg His Tyr Leu Cys Ala Ser  
                   50                  55                  60  
 His Phe Asn Arg Asn Ser Leu Arg Tyr His Ala Gly Leu Gly Leu Trp  
 65                  70                  75                  80  
 Arg Arg Ala Ala Ala Cys Pro Val Leu Ala Cys Thr Thr Asp Glu Glu  
                   85                  90                  95  
 Arg Gln Glu Val  
                   100

<210> 97

<211> 86

<212> PRT

<213> Caenorhabditis elegans

<400> 97

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Met Glu His Pro Leu Gln Cys Cys Tyr Cys Leu Glu Val Tyr Glu Lys
 1          5          10          15
Arg Tyr Met Thr Gln Val Pro Lys Thr Glu Gln Arg Ile Ala Arg Trp
          20          25          30
Val Ala Ile Leu Gly Glu Gln Phe Arg Ile Arg Leu Arg Met Lys Pro
          35          40          45
Ala Asn Tyr Met Cys Arg Lys His Phe Pro Gln Ala Asp Phe Ser Ser
          50          55          60
Arg Gly Arg Leu Leu Lys Thr Ala Val Pro Asn Val Val Ser Gln Glu
65          70          75          80
Lys Val Leu Ala Phe Lys
          85
```

<210> 98

<211> 97

<212> PRT

<213> Caenorhabditis elegans

<400> 98

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Asn Leu Thr His Lys Pro Cys Thr Val Cys Asn Arg Val Met Lys Ser
 1          5          10          15
Gly Glu Met His Leu Asn Phe Pro Ala Asp Leu Asp Arg Arg Arg Ile
          20          25          30
Trp Ala Asn Leu Leu Gly Phe Lys Tyr Lys Asp Ile Leu Arg Ser Lys
          35          40          45
Met Gly Pro Val Ser Phe Ser Ile Ala Ala Gly Pro Ile Cys Thr Glu
          50          55          60
His Phe Ala Glu Glu Cys Phe Arg Asn His Asn Phe Asn Lys Ser Ala
65          70          75          80
Ile Glu Ala Phe Gly Val Pro Val Ala Ile Ser Pro Asp Val Lys Thr
          85          90          95
Thr
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<210> 99

<211> 210

<212> PRT

<213> Mus musculus

<400> 99

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Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Lys Asn Arg Tyr Asp Lys
 1          5          10          15
Asp Lys Pro Val Ser Phe His Lys Phe Pro Leu Thr Arg Pro Ser Leu
          20          25          30
Cys Lys Gln Trp Glu Ala Ala Val Lys Arg Lys Asn Phe Lys Pro Thr
          35          40          45
Lys Tyr Ser Ser Ile Cys Ser Glu His Phe Thr Pro Asp Cys Phe Lys
          50          55          60
Arg Glu Cys Asn Asn Lys Leu Leu Lys Glu Asn Ala Val Pro Thr Ile
65          70          75          80
Phe Leu Tyr Ile Glu Pro His Glu Lys Lys Glu Asp Leu Glu Ser Gln
          85          90          95
```

Glu Gln Leu Pro Ser Pro Ser Pro Pro Ala Ser Gln Val Asp Ala Ala  
                   100                                  105                  110  
 Ile Gly Leu Leu Met Pro Pro Leu Gln Thr Pro Asp Asn Leu Ser Val  
                   115                                  120                  125  
 Phe Cys Asp His Asn Tyr Thr Val Glu Asp Thr Met His Gln Arg Lys  
                   130                                  135                  140  
 Arg Ile Leu Gln Leu Glu Gln Gln Val Glu Lys Leu Arg Lys Lys Leu  
                   145                                  150                  155                  160  
 Lys Thr Ala Gln Gln Arg Cys Arg Arg Gln Glu Arg Gln Leu Glu Lys  
                   165                                  170                  175  
 Leu Lys Glu Val Val His Phe Gln Arg Glu Lys Asp Asp Ala Ser Glu  
                   180                                  185                  190  
 Arg Gly Tyr Val Ile Leu Pro Asn Asp Tyr Phe Glu Ile Val Glu Val  
                   195                                  200                  205  
 Pro Ala  
                   210

<210> 100  
 <211> 217  
 <212> PRT  
 <213> Mus musculus

<400> 100  
 Met Pro Thr Asn Cys Ala Ala Ala Gly Cys Ala Ala Thr Tyr Asn Lys  
   1                                  5                                  10                                  15  
 His Ile Asn Ile Ser Phe His Arg Phe Pro Leu Asp Pro Lys Arg Arg  
                   20                                  25                                  30  
 Lys Glu Trp Val Arg Leu Val Arg Arg Lys Asn Phe Val Pro Gly Lys  
                   35                                  40                                  45  
 His Thr Phe Leu Cys Ser Lys His Phe Glu Ala Ser Cys Phe Asp Leu  
                   50                                  55                                  60  
 Thr Gly Gln Thr Arg Arg Leu Lys Met Asp Ala Val Pro Thr Ile Phe  
                   65                                  70                                  75                                  80  
 Asp Phe Cys Thr His Ile Lys Ser Leu Lys Leu Lys Ser Arg Asn Leu  
                   85                                  90                                  95  
 Leu Lys Thr Asn Asn Ser Phe Pro Pro Thr Gly Pro Cys Asn Leu Lys  
                   100                                  105                                  110  
 Leu Asn Gly Ser Gln Gln Val Leu Leu Glu His Ser Tyr Ala Phe Arg  
                   115                                  120                                  125  
 Asn Pro Met Glu Ala Lys Lys Arg Ile Ile Lys Leu Glu Lys Glu Ile  
                   130                                  135                                  140  
 Ala Ser Leu Arg Lys Lys Met Lys Thr Cys Leu Gln Arg Glu Arg Arg  
                   145                                  150                                  155                                  160  
 Ala Thr Arg Arg Trp Ile Lys Ala Thr Cys Phe Val Lys Ser Leu Glu  
                   165                                  170                                  175  
 Ala Ser Asn Met Leu Pro Lys Gly Ile Ser Glu Gln Ile Leu Pro Thr  
                   180                                  185                                  190  
 Ala Leu Ser Asn Leu Pro Leu Glu Asp Leu Lys Ser Leu Glu Gln Asp  
                   195                                  200                                  205  
 Gln Gln Asp Lys Thr Val Pro Ile Leu  
                   210                                  215

<210> 101  
 <211> 218  
 <212> PRT

<213> Mus musculus

<400> 101

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Met Pro Lys Ser Cys Ala Ala Arg Gln Cys Cys Asn Arg Tyr Ser Ser
 1          5          10          15
Arg Arg Lys Gln Leu Thr Phe His Arg Phe Pro Phe Ser Arg Pro Glu
          20          25          30
Leu Leu Arg Glu Trp Val Leu Asn Ile Gly Arg Ala Asp Phe Lys Pro
          35          40          45
Lys Gln His Thr Val Ile Cys Ser Glu His Phe Arg Pro Glu Cys Phe
          50          55          60
Ser Ala Phe Gly Asn Arg Lys Asn Leu Lys His Asn Ala Val Pro Thr
65          70          75          80
Val Phe Ala Phe Gln Asn Pro Thr Glu Val Cys Pro Glu Val Gly Ala
          85          90          95
Gly Gly Asp Ser Ser Gly Arg Asn Met Asp Thr Thr Leu Glu Glu Leu
          100          105          110
Gln Pro Pro Thr Pro Glu Gly Pro Val Gln Gln Val Leu Pro Asp Arg
          115          120          125
Glu Ala Met Glu Ala Thr Glu Ala Ala Gly Leu Pro Ala Ser Pro Leu
          130          135          140
Gly Leu Lys Arg Pro Leu Pro Gly Gln Pro Ser Asp His Ser Tyr Ala
145          150          155          160
Leu Ser Asp Leu Asp Thr Leu Lys Lys Lys Leu Phe Leu Thr Leu Lys
          165          170          175
Glu Asn Lys Arg Leu Arg Lys Arg Leu Lys Ala Gln Arg Leu Leu Leu
          180          185          190
Arg Arg Thr Cys Gly Arg Leu Arg Ala Tyr Arg Glu Gly Gln Pro Gly
          195          200          205
Pro Arg Ala Arg Arg Pro Ala Gln Gly Ser
          210          215
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<210> 102

<211> 205

<212> PRT

<213> Mus musculus

<400> 102

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Met Val Ile Cys Cys Ala Ala Val Asn Cys Ser Asn Arg Gln Gly Lys
 1          5          10          15
Gly Glu Lys Arg Ala Val Ser Phe His Arg Phe Pro Leu Lys Asp Ser
          20          25          30
Lys Arg Leu Ile Gln Trp Leu Lys Ala Val Gln Arg Asp Asn Trp Thr
          35          40          45
Pro Thr Lys Tyr Ser Phe Leu Cys Ser Glu His Phe Thr Lys Asp Ser
          50          55          60
Phe Ser Lys Arg Leu Glu Asp Gln His Arg Leu Leu Lys Pro Thr Ala
65          70          75          80
Val Pro Ser Ile Phe His Leu Ser Glu Lys Lys Arg Gly Ala Gly Gly
          85          90          95
His Gly His Ala Arg Arg Lys Thr Thr Ala Ala Met Arg Gly His Thr
          100          105          110
Ser Ala Glu Thr Gly Lys Gly Thr Ile Gly Ser Ser Leu Ser Ser Ser
          115          120          125
Asp Asn Leu Met Ala Lys Pro Glu Ser Arg Lys Leu Lys Arg Ala Ser
          130          135          140
```

Leu Gln Asp Asp Ala Ala Pro Lys Val Thr Pro Gly Ala Val Ser Gln  
 145 150 155 160  
 Glu Gln Gly Gln Ser Leu Glu Lys Thr Pro Gly Asp Asp Pro Ala Ala  
 165 170 175  
 Pro Leu Ala Arg Gly Gln Glu Glu Ala Gln Ala Ser Ala Thr Glu Ala  
 180 185 190  
 Asp His Gln Lys Ala Ser Ser Ser Thr Asp Ala Glu Gly  
 195 200 205

<210> 103  
 <211> 186  
 <212> PRT  
 <213> Mus musculus

<400> 103  
 Ile Leu Gln Ala Phe Gly Ser Leu Lys Lys Gly Asp Val Leu Cys Ser  
 1 5 10 15  
 Arg His Phe Lys Lys Thr Asp Phe Asp Arg Ser Thr Leu Asn Thr Lys  
 20 25 30  
 Leu Lys Ala Gly Ala Ile Pro Ser Ile Phe Glu Cys Pro Tyr His Leu  
 35 40 45  
 Gln Glu Lys Arg Glu Lys Leu His Cys Arg Lys Asn Phe Leu Leu Lys  
 50 55 60  
 Thr Leu Pro Ile Thr His His Gly Arg Gln Leu Val Gly Ala Ser Cys  
 65 70 75 80  
 Ile Glu Glu Phe Glu Pro Gln Phe Ile Phe Glu His Ser Tyr Ser Val  
 85 90 95  
 Met Asp Ser Pro Lys Lys Leu Lys His Lys Leu Asp Arg Val Ile Ile  
 100 105 110  
 Glu Leu Glu Asn Thr Lys Glu Ser Leu Arg Asn Val Leu Ala Arg Glu  
 115 120 125  
 Lys His Phe Gln Lys Ser Leu Arg Lys Thr Ile Met Glu Leu Lys Asp  
 130 135 140  
 Glu Ser Leu Ile Ser Gln Glu Thr Ala Asn Ser Leu Gly Ala Phe Cys  
 145 150 155 160  
 Trp Glu Cys Tyr His Glu Ser Thr Ala Gly Gly Cys Ser Cys Glu Val  
 165 170 175  
 Ile Ser Tyr Met Leu His Leu Gln Leu Thr  
 180 185

<210> 104  
 <211> 194  
 <212> PRT  
 <213> Mus musculus

<400> 104  
 Met Pro Arg His Cys Ser Ala Ala Gly Cys Cys Thr Arg Asp Thr Arg  
 1 5 10 15  
 Glu Thr Arg Asn Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp  
 20 25 30  
 Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn Cys Gln Arg Leu Asp Pro  
 35 40 45  
 Ser Gly Gln Gly Leu Trp Asp Pro Thr Ser Glu Tyr Ile Tyr Phe Cys  
 50 55 60  
 Ser Lys His Phe Glu Glu Asn Cys Phe Glu Leu Val Gly Ile Ser Gly

65					70					75					80
Tyr	His	Arg	Leu	Lys	Glu	Gly	Ala	Val	Pro	Thr	Ile	Phe	Glu	Ser	Phe
				85					90					95	
Ser	Lys	Leu	Arg	Arg	Thr	Ala	Lys	Thr	Lys	Gly	His	Gly	Tyr	Pro	Pro
			100					105					110		
Gly	Leu	Pro	Asp	Val	Ser	Arg	Leu	Arg	Arg	Cys	Arg	Lys	Arg	Cys	Ser
		115					120					125			
Glu	Arg	Gln	Gly	Pro	Thr	Thr	Pro	Phe	Ser	Pro	Pro	Pro	Arg	Ala	Asp
	130					135					140				
Ile	Ile	Cys	Phe	Pro	Val	Glu	Glu	Ala	Ser	Ala	Pro	Ala	Thr	Leu	Pro
145				150						155					160
Ala	Ser	Pro	Ala	Val	Arg	Leu	Asp	Pro	Gly	Leu	Asn	Ser	Pro	Phe	Ser
			165					170						175	
Asp	Leu	Leu	Gly	Pro	Leu	Gly	Ala	Gln	Ala	Asp	Glu	Ala	Gly	Cys	Ser
		180						185					190		
Thr	Gln														

<210> 105  
 <211> 305  
 <212> PRT  
 <213> Mus musculus

<400> 105

Met	Pro	Gly	Phe	Thr	Cys	Cys	Val	Pro	Gly	Cys	Tyr	Asn	Asn	Ser	His
1				5					10					15	
Arg	Asp	Lys	Ala	Leu	His	Phe	Tyr	Thr	Phe	Pro	Lys	Asp	Ala	Glu	Leu
		20						25					30		
Arg	Arg	Leu	Trp	Leu	Lys	Asn	Val	Ser	Arg	Ala	Gly	Val	Ser	Gly	Cys
		35					40					45			
Phe	Ser	Thr	Phe	Gln	Pro	Thr	Thr	Gly	His	Arg	Leu	Cys	Ser	Val	His
	50					55				60					
Phe	Gln	Gly	Gly	Arg	Lys	Thr	Tyr	Thr	Val	Arg	Val	Pro	Thr	Ile	Phe
65				70					75					80	
Pro	Leu	Arg	Gly	Val	Asn	Glu	Arg	Lys	Val	Ala	Arg	Arg	Pro	Ala	Gly
			85					90					95		
Ala	Ala	Ala	Ala	Arg	Arg	Arg	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
		100					105						110		
Gln	Gln	Gln	Gln	Gln	Gln	Leu	Gln	Gln	Gln	Gln	Pro	Ser	Pro	Ser	Ser
		115					120					125			
Ser	Thr	Ala	Gln	Thr	Thr	Gln	Leu	Gln	Pro	Asn	Leu	Val	Ser	Ala	Ser
	130					135					140				
Ala	Ala	Val	Leu	Leu	Thr	Leu	Gln	Ala	Ala	Val	Asp	Ser	Asn	Gln	Ala
145				150					155						160
Pro	Gly	Ser	Val	Val	Pro	Val	Ser	Thr	Thr	Pro	Ser	Gly	Asp	Asp	Val
			165					170					175		
Lys	Pro	Ile	Asp	Leu	Thr	Val	Gln	Val	Glu	Phe	Ala	Ala	Ala	Glu	Gly
		180					185						190		
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ser	Glu	Leu	Glu	Ala	Ala	Thr	Ala	Gly
		195					200					205			
Leu	Glu	Ala	Ala	Glu	Cys	Thr	Leu	Gly	Pro	Gln	Leu	Val	Val	Val	Gly
	210					215					220				
Glu	Glu	Gly	Phe	Pro	Asp	Thr	Gly	Ser	Asp	His	Ser	Tyr	Ser	Leu	Ser
225				230					235					240	
Ser	Gly	Thr	Thr	Glu	Glu	Glu	Leu	Leu	Arg	Lys	Leu	Asn	Glu	Gln	Arg
			245					250						255	



Asp Ile Leu Ala Leu Met Glu Val Lys Met Lys Glu Met Lys Gly Ser  
                   260                  265                  270  
 Ile Arg His Leu Arg Leu Thr Glu Ala Lys Leu Arg Glu Glu Leu Arg  
                   275                  280                  285  
 Glu Lys Asp Arg Leu Leu Ala Met Ala Val Ile Arg Lys Lys His Gly  
                   290                  295                  300  
 Met  
 305

<210> 106  
 <211> 305  
 <212> PRT  
 <213> Mus musculus

<400> 106  
 Met Pro Gly Phe Thr Cys Cys Val Pro Gly Cys Tyr Asn Asn Ser His  
   1                  5                  10                  15  
 Arg Asp Lys Ala Leu His Phe Tyr Thr Phe Pro Lys Asp Ala Glu Leu  
                   20                  25                  30  
 Arg Arg Leu Trp Leu Lys Asn Val Ser Arg Ala Gly Val Ser Gly Cys  
                   35                  40                  45  
 Phe Ser Thr Phe Gln Pro Thr Thr Gly His Arg Leu Cys Ser Val His  
                   50                  55                  60  
 Phe Gln Gly Gly Arg Lys Thr Tyr Thr Val Arg Val Pro Thr Ile Phe  
  65                  70                  75                  80  
 Pro Leu Arg Gly Val Asn Glu Arg Lys Val Ala Arg Arg Pro Ala Gly  
                   85                  90                  95  
 Ala Ala Ala Ala Arg Arg Arg Gln Gln Gln Gln Gln Gln Gln Gln  
                   100                  105                  110  
 Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Pro Ser Pro Ser Ser  
                   115                  120                  125  
 Ser Thr Ala Gln Thr Thr Gln Leu Gln Pro Asn Leu Val Ser Ala Ser  
                   130                  135                  140  
 Ala Ala Val Leu Leu Thr Leu Gln Ala Ala Val Asp Ser Asn Gln Ala  
  145                  150                  155                  160  
 Pro Gly Ser Val Val Pro Val Ser Thr Thr Pro Ser Gly Asp Asp Val  
                   165                  170                  175  
 Lys Pro Ile Asp Leu Thr Val Gln Val Glu Phe Ala Ala Ala Glu Gly  
                   180                  185                  190  
 Ala Ala Ala Ala Ala Ala Ala Ser Glu Leu Glu Ala Ala Thr Ala Gly  
                   195                  200                  205  
 Leu Glu Ala Ala Glu Cys Thr Leu Gly Pro Gln Leu Val Val Val Gly  
                   210                  215                  220  
 Glu Glu Gly Phe Pro Asp Thr Gly Ser Asp His Ser Tyr Ser Leu Ser  
  225                  230                  235                  240  
 Ser Gly Thr Thr Glu Glu Glu Leu Leu Arg Lys Leu Asn Glu Gln Arg  
                   245                  250                  255  
 Asp Ile Leu Ala Leu Met Glu Val Lys Met Lys Glu Met Lys Gly Ser  
                   260                  265                  270  
 Ile Arg His Leu Arg Leu Thr Glu Ala Lys Leu Arg Glu Glu Leu Arg  
                   275                  280                  285  
 Glu Lys Asp Arg Leu Leu Ala Met Ala Val Ile Arg Lys Lys His Gly  
                   290                  295                  300  
 Met  
 305

<210> 107  
 <211> 652  
 <212> PRT  
 <213> Mus musculus

<400> 107

Met	Pro	Asn	Phe	Cys	Ala	Ala	Pro	Asn	Cys	Thr	Arg	Lys	Ser	Thr	Gln
1				5					10					15	
Ser	Asp	Leu	Ala	Phe	Phe	Arg	Phe	Pro	Arg	Asp	Pro	Ala	Arg	Cys	Gln
		20						25				30			
Lys	Trp	Val	Glu	Asn	Cys	Arg	Arg	Ala	Asp	Leu	Glu	Asp	Lys	Thr	Pro
		35					40					45			
Asp	Gln	Leu	Asn	Lys	His	Tyr	Arg	Leu	Cys	Ala	Lys	His	Phe	Glu	Thr
	50					55					60				
Ser	Met	Ile	Cys	Arg	Thr	Ser	Pro	Tyr	Arg	Thr	Val	Leu	Arg	Asp	Asn
65					70					75					80
Ala	Ile	Pro	Thr	Ile	Phe	Asp	Leu	Thr	Ser	His	Leu	Asn	Asn	Pro	His
				85					90					95	
Ser	Arg	His	Arg	Lys	Arg	Ile	Lys	Glu	Leu	Ser	Glu	Asp	Glu	Ile	Arg
			100					105					110		
Thr	Leu	Lys	Gln	Lys	Lys	Ile	Glu	Glu	Thr	Ser	Glu	Gln	Glu	Gln	Glu
		115					120					125			
Thr	Asn	Thr	Asn	Ala	Gln	Asn	Pro	Ser	Ala	Glu	Ala	Val	Asn	Gln	Gln
	130					135					140				
Asp	Ala	Asn	Val	Leu	Pro	Leu	Thr	Leu	Glu	Glu	Lys	Glu	Asn	Lys	Glu
145					150					155					160
Tyr	Leu	Lys	Ser	Leu	Phe	Glu	Ile	Leu	Val	Leu	Met	Gly	Lys	Gln	Asn
				165					170					175	
Ile	Pro	Leu	Asp	Gly	His	Glu	Ala	Asp	Glu	Val	Pro	Glu	Gly	Leu	Phe
			180					185					190		
Ala	Pro	Asp	Asn	Phe	Gln	Ala	Leu	Leu	Glu	Cys	Arg	Ile	Asn	Ser	Gly
		195					200					205			
Glu	Glu	Val	Leu	Arg	Lys	Arg	Phe	Glu	Ala	Thr	Ala	Val	Asn	Thr	Leu
	210					215					220				
Phe	Cys	Ser	Lys	Thr	Gln	Gln	Arg	His	Met	Leu	Glu	Ile	Cys	Glu	Ser
225					230					235					240
Cys	Ile	Arg	Glu	Glu	Thr	Leu	Arg	Glu	Val	Arg	Asp	Ser	His	Phe	Phe
				245					250					255	
Ser	Ile	Ile	Thr	Asp	Asp	Val	Val	Asp	Ile	Ala	Gly	Glu	Glu	His	Leu
		260						265					270		
Pro	Val	Leu	Val	Arg	Phe	Val	Asp	Asp	Ala	His	Asn	Leu	Arg	Glu	Glu
		275					280					285			
Phe	Val	Gly	Phe	Leu	Pro	Tyr	Glu	Ala	Asp	Ala	Glu	Ile	Leu	Ala	Val
	290					295					300				
Lys	Phe	His	Thr	Thr	Ile	Thr	Glu	Lys	Trp	Gly	Leu	Asn	Met	Glu	Tyr
305					310					315					320
Cys	Arg	Gly	Gln	Ala	Tyr	Ile	Val	Ser	Ser	Gly	Phe	Ser	Ser	Lys	Met
				325					330					335	
Lys	Val	Val	Ala	Ser	Arg	Leu	Leu	Glu	Lys	Tyr	Pro	Gln	Ala	Val	Tyr
			340					345					350		
Thr	Leu	Cys	Ser	Ser	Cys	Ala	Leu	Asn	Ala	Trp	Leu	Ala	Lys	Ser	Val
		355					360					365			
Pro	Val	Ile	Gly	Val	Ser	Val	Ala	Leu	Gly	Thr	Ile	Glu	Glu	Val	Cys
	370					375					380				
Ser	Phe	Phe	His	Arg	Ser	Pro	Gln	Leu	Leu	Leu	Glu	Leu	Asp	Ser	Val
385					390					395					400

Ile	Ser	Val	Leu	Phe	Gln	Asn	Ser	Glu	Glu	Arg	Ala	Lys	Glu	Leu	Lys
				405					410					415	
Glu	Ile	Cys	His	Ser	Gln	Trp	Thr	Gly	Arg	His	Asp	Ala	Phe	Glu	Ile
			420					425					430		
Leu	Val	Asp	Leu	Leu	Gln	Ala	Leu	Val	Leu	Cys	Leu	Asp	Gly	Ile	Ile
		435					440					445			
Asn	Ser	Asp	Thr	Asn	Val	Arg	Trp	Asn	Asn	Tyr	Ile	Ala	Gly	Arg	Ala
	450				455						460				
Phe	Val	Leu	Cys	Ser	Ala	Val	Thr	Asp	Phe	Asp	Phe	Ile	Val	Thr	Ile
465					470				475						480
Val	Val	Leu	Lys	Asn	Val	Leu	Ser	Phe	Thr	Arg	Ala	Phe	Gly	Lys	Asn
			485						490					495	
Leu	Gln	Gly	Gln	Thr	Ser	Asp	Val	Phe	Phe	Ala	Ala	Ser	Ser	Leu	Thr
		500						505					510		
Ala	Val	Leu	His	Ser	Leu	Asn	Glu	Val	Met	Glu	Asn	Ile	Glu	Val	Tyr
	515					520						525			
His	Glu	Phe	Trp	Phe	Glu	Glu	Ala	Thr	Asn	Leu	Ala	Thr	Lys	Leu	Asp
	530					535					540				
Ile	Gln	Met	Lys	Leu	Pro	Gly	Lys	Phe	Arg	Arg	Ala	Gln	Gln	Gly	Asn
545					550				555						560
Leu	Glu	Ser	Gln	Leu	Thr	Ser	Glu	Ser	Tyr	Tyr	Lys	Asp	Thr	Leu	Ser
			565						570					575	
Val	Pro	Thr	Val	Glu	His	Ile	Ile	Gln	Glu	Leu	Lys	Asp	Ile	Phe	Ser
		580					585						590		
Glu	Gln	His	Leu	Lys	Ala	Leu	Lys	Cys	Leu	Ser	Leu	Val	Pro	Ser	Val
	595					600						605			
Met	Gly	Gln	Leu	Lys	Phe	Asn	Thr	Ser	Glu	Glu	His	His	Ala	Asp	Met
	610				615						620				
Tyr	Arg	Ser	Asp	Leu	Pro	Asn	Pro	Asp	Thr	Leu	Ser	Ala	Glu	Leu	His
625				630					635						640
Cys	Trp	Arg	Ile	Lys	Trp	Lys	His	Arg	Gly	Lys	Asp				
			645						650						

<210> 108  
 <211> 180  
 <212> PRT  
 <213> Rattus norvegicus

<220>  
 <223> RAT THAP

<221> UNSURE  
 <222> 95  
 <223> Xaa = any of the twenty amino acids

Arg	Gln	Cys	Cys	Asn	Arg	Tyr	Ser	Ser	Arg	Arg	Lys	Gln	Leu	Thr	Phe
1				5					10					15	
His	Arg	Phe	Pro	Phe	Ser	Arg	Pro	Glu	Leu	Leu	Arg	Glu	Trp	Val	Leu
			20					25					30		
Asn	Ile	Gly	Arg	Ala	Asp	Phe	Lys	Pro	Lys	Gln	His	Thr	Val	Ile	Cys
	35					40					45				
Ser	Glu	His	Phe	Arg	Pro	Glu	Cys	Phe	Ser	Ala	Phe	Gly	Asn	Arg	Lys
	50				55					60					
Asn	Leu	Lys	His	Asn	Ala	Val	Pro	Thr	Val	Phe	Ala	Phe	Gln	Asn	Pro
65				70					75					80	

Ala Gln Val Cys Pro Glu Val Gly Ala Gly Gly Asp Ser Ser Xaa Arg  
85 90 95  
Asn Met Asp Ala Thr Leu Glu Glu Leu Gln Ser Pro Asn Thr Glu Gly  
100 105 110  
Pro Met Gln Gln Val Leu Pro Asp Arg Gln Ala Thr Glu Ala Met Glu  
115 120 125  
Ala Ala Gly Leu Pro Ala Gly Pro Leu Gly Leu Lys Arg Pro Leu Pro  
130 135 140  
Gly Gln Pro Ser Asp His Ser Tyr Ala Leu Leu Asp Leu Asp Thr Leu  
145 150 155 160  
Lys Lys Lys Leu Phe Leu Thr Leu Lys Glu Asn Lys Arg Leu Arg Lys  
165 170 175  
Arg Leu Lys Ala  
180

<210> 109  
<211> 82  
<212> PRT  
<213> Rattus norvegicus

<400> 109  
Met Val Lys Cys Cys Ser Ala Ile Gly Cys Ala Ser Arg Cys Leu Pro  
1 5 10 15  
Asn Ser Lys Leu Lys Gly Leu Thr Phe His Val Phe Pro Thr Asp Glu  
20 25 30  
Asn Ile Lys Arg Lys Trp Val Leu Ala Met Lys Arg Leu Asp Val Asn  
35 40 45  
Thr Ala Gly Ile Trp Glu Pro Ser Leu Gln Pro Glu Ser Phe Tyr Phe  
50 55 60  
Ile Phe Met Glu Asn Leu Phe Phe Ile Leu Pro Pro Gln Leu Ser His  
65 70 75 80  
Ala Val

<210> 110  
<211> 309  
<212> PRT  
<213> Rattus norvegicus

<400> 110  
Met Pro Arg His Cys Ser Ala Ala Gly Cys Cys Thr Arg Asp Thr Arg  
1 5 10 15  
Glu Thr Arg Asn Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp  
20 25 30  
Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn Cys Gln Arg Leu Asp Pro  
35 40 45  
Ser Gly Gln Gly Leu Trp Asp Pro Thr Ser Glu Tyr Ile Tyr Phe Cys  
50 55 60  
Ser Lys His Phe Glu Glu Asn Cys Phe Glu Leu Val Gly Ile Ser Gly  
65 70 75 80  
Tyr His Arg Leu Lys Glu Gly Ala Val Pro Thr Ile Phe Glu Ser Phe  
85 90 95  
Ser Lys Leu Arg Arg Thr Ala Lys Thr Lys Val His Gly Tyr Pro Pro  
100 105 110  
Gly Leu Pro Asp Val Ser Arg Leu Arg Arg Cys Arg Lys Arg Cys Ser



<400> 112

Met	Val	Lys	Cys	Cys	Ser	Ala	Ile	Gly	Cys	Ala	Ser	Arg	Cys	Leu	Pro
1				5					10					15	
Asn	Ser	Lys	Leu	Lys	Gly	Leu	Thr	Phe	His	Val	Phe	Pro	Thr	Asp	Glu
			20					25					30		
Lys	Val	Lys	Arg	Lys	Trp	Val	Leu	Ala	Met	Lys	Arg	Leu	Asp	Val	Asn
		35					40					45			
Ala	Ala	Gly	Met	Trp	Glu	Pro	Lys	Lys	Gly	Asp	Val	Leu	Cys	Ser	Arg
	50					55					60				
His	Phe	Lys	Lys	Thr	Asp	Phe	Asp	Arg	Thr	Thr	Pro	Asn	Ile	Lys	Leu
65					70					75					80
Lys	Pro	Gly	Val	Ile	Pro	Ser	Ile	Phe	Asp	Ser	Pro	Ser	His	Leu	Thr
				85					90					95	
Gly	Glu	Glu	Arg	Lys	Ala	Pro	Leu								
				100											

<210> 113

<211> 235

<212> PRT

<213> Sus scrofa

<220>

<221> UNSURE

<222> 57, 124, 192

<223> Xaa = any of the twenty amino acids

<400> 113

Met	Pro	Arg	His	Cys	Ser	Ala	Ala	Gly	Cys	Cys	Thr	Arg	Asp	Thr	Arg
1				5					10					15	
Glu	Thr	Arg	Asn	Arg	Gly	Ile	Ser	Phe	His	Arg	Leu	Pro	Lys	Lys	Asp
			20					25					30		
Asn	Pro	Arg	Arg	Gly	Leu	Trp	Leu	Ala	Asn	Cys	Gln	Arg	Leu	Asp	Pro
		35					40					45			
Ser	Gly	Gln	Gly	Leu	Trp	Asp	Pro	Xaa	Ser	Glu	Tyr	Ile	Tyr	Phe	Cys
	50					55					60				
Ser	Lys	His	Phe	Glu	Glu	Asn	Cys	Phe	Glu	Leu	Val	Gly	Ile	Ser	Gly
65					70					75					80
Tyr	His	Arg	Leu	Lys	Glu	Gly	Ala	Val	Pro	Thr	Ile	Phe	Glu	Ser	Phe
			85						90					95	
Ser	Lys	Leu	Arg	Arg	Thr	Ala	Lys	Thr	Lys	Gly	His	Ser	Tyr	Pro	Pro
		100						105					110		
Gly	Pro	Pro	Asp	Val	Ser	Arg	Leu	Arg	Arg	Cys	Xaa	Lys	Arg	Cys	Ser
		115					120					125			
Glu	Gly	Arg	Gly	Pro	Thr	Thr	Pro	Phe	Ser	Pro	Pro	Pro	Pro	Ala	Asp
	130					135						140			
Val	Thr	Cys	Phe	Pro	Val	Glu	Glu	Ala	Ser	Ala	Pro	Ala	Ala	Leu	Ser
145					150					155					160
Ala	Ser	Pro	Thr	Gly	Arg	Leu	Glu	Pro	Gly	Leu	Ser	Ser	Pro	Phe	Ser
				165					170					175	
Asp	Leu	Leu	Gly	Pro	Leu	Gly	Ala	Gln	Ala	Asp	Glu	Ala	Gly	Cys	Xaa
			180					185					190		
Thr	Gln	Pro	Ser	Pro	Glu	Arg	Glu	Pro	Glu	Arg	Gln	Pro	Ser	Pro	Leu
		195					200					205			
Glu	Pro	Arg	Pro	Val	Ser	Pro	Ser	Ala	Tyr	Met	Leu	Arg	Leu	Pro	Pro
	210						215					220			

Pro Ala Gly Ala Tyr Ile Gln Asn Glu His Ser  
 225 230 235

<210> 114  
 <211> 149  
 <212> PRT  
 <213> Sus scrofa

<400> 114  
 Met Thr Arg Ser Cys Ser Ala Val Gly Cys Ser Thr Arg Asp Thr Val  
 1 5 10 15  
 Leu Ser Arg Glu Arg Gly Leu Ser Phe His Gln Phe Pro Thr Asp Thr  
 20 25 30  
 Ile Gln Arg Ser Gln Trp Ile Arg Ala Val Asn Arg Met Asp Pro Arg  
 35 40 45  
 Ser Lys Lys Ile Trp Ile Pro Gly Pro Gly Ala Met Leu Cys Ser Lys  
 50 55 60  
 His Phe Gln Glu Ser Asp Phe Glu Ser Tyr Gly Ile Arg Arg Lys Leu  
 65 70 75 80  
 Lys Lys Gly Ala Val Pro Ser Val Ser Leu Tyr Lys Val Leu Gln Gly  
 85 90 95  
 Ala His Leu Lys Gly Lys Ala Arg Gln Lys Ile Leu Lys Gln Pro Leu  
 100 105 110  
 Pro Asp Asn Ser Gln Glu Val Ala Thr Glu Asp His Asn Tyr Ser Leu  
 115 120 125  
 Lys Gly Pro Leu Thr Ile Gly Ala Glu Lys Leu Ala Glu Val Gln Gln  
 130 135 140  
 Met Leu Gln Val Ser  
 145

<210> 115  
 <211> 43  
 <212> PRT  
 <213> Mus musculus

<400> 115  
 Val Leu Glu Asp Val Ala Ala Ala Glu Gln Gly Leu Arg Glu Leu Gln  
 1 5 10 15  
 Arg Gly Arg Arg Gln Cys Arg Glu Arg Val Cys Ala Leu Arg Ala Ala  
 20 25 30  
 Ala Glu Gln Arg Glu Ala Arg Cys Arg Asp Gly  
 35 40

<210> 116  
 <211> 45  
 <212> PRT  
 <213> Mus musculus

<400> 116  
 Gln Leu Glu Gln Gln Val Glu Lys Leu Arg Lys Lys Leu Lys Thr Ala  
 1 5 10 15  
 Gln Gln Arg Cys Arg Arg Gln Glu Arg Gln Leu Glu Lys Leu Lys Glu  
 20 25 30  
 Val Val His Phe Gln Arg Glu Lys Asp Asp Ala Ser Glu

35

40

45

&lt;210&gt; 117

&lt;211&gt; 45

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 117

Gln	Leu	Glu	Gln	Gln	Val	Glu	Lys	Leu	Arg	Lys	Lys	Leu	Lys	Thr	Ala
1				5					10					15	
Gln	Gln	Arg	Cys	Arg	Arg	Gln	Glu	Arg	Gln	Leu	Glu	Lys	Leu	Lys	Glu
		20						25					30		
Val	Val	His	Phe	Gln	Lys	Glu	Lys	Asp	Asp	Val	Ser	Glu			
		35					40					45			

&lt;210&gt; 118

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 118

Met	Ala	Thr	Gly	Gly	Tyr	Arg	Thr	Ser	Ser	Gly	Leu	Gly	Gly	Ser	Thr
1				5					10					15	
Thr	Asp	Phe	Leu	Glu	Glu	Trp	Lys	Ala	Lys	Arg	Glu	Lys	Met	Arg	Ala
		20						25					30		
Lys	Gln	Asn	Pro	Pro	Gly	Pro	Ala	Pro	Pro	Gly	Gly	Gly	Ser	Ser	Asp
		35					40					45			
Ala	Ala	Gly	Lys	Pro	Pro	Ala	Gly	Ala	Leu	Gly	Thr	Pro	Ala	Ala	Ala
	50					55				60					
Ala	Ala	Asn	Glu	Leu	Asn	Asn	Asn	Leu	Pro	Gly	Gly	Ala	Pro	Ala	Ala
65					70					75				80	
Pro	Ala	Val	Pro	Gly	Pro	Gly	Gly	Val	Asn	Cys	Ala	Val	Gly	Ser	Ala
				85				90					95		
Met	Leu	Thr	Arg	Ala	Pro	Pro	Ala	Arg	Gly	Pro	Arg	Arg	Ser	Glu	Asp
			100					105					110		
Glu	Pro	Pro	Ala	Ala	Ser	Ala	Ser	Ala	Ala	Pro	Pro	Pro	Gln	Arg	Asp
		115					120					125			
Glu	Glu	Glu	Pro	Asp	Gly	Val	Pro	Glu	Lys	Gly	Lys	Ser	Ser	Gly	Pro
	130					135					140				
Ser	Ala	Arg	Lys	Gly	Lys	Gly	Gln	Ile	Glu	Lys	Arg	Lys	Leu	Arg	Glu
145					150					155				160	
Lys	Arg	Arg	Ser	Thr	Gly	Val	Val	Asn	Ile	Pro	Ala	Ala	Glu	Cys	Leu
			165					170					175		
Asp	Glu	Tyr	Glu	Asp	Asp	Glu	Ala	Gly	Gln	Lys	Glu	Arg	Lys	Arg	Glu
		180						185					190		
Asp	Ala	Ile	Thr	Gln	Gln	Asn	Thr	Ile	Gln	Asn	Glu	Ala	Val	Asn	Leu
		195					200					205			
Leu	Asp	Pro	Gly	Ser	Ser	Tyr	Leu	Leu	Gln	Glu	Pro	Pro	Arg	Thr	Val
	210					215					220				
Ser	Gly	Arg	Tyr	Lys	Ser	Thr	Thr	Ser	Val	Ser	Glu	Glu	Asp	Val	Ser
225					230					235				240	
Ser	Arg	Tyr	Ser	Arg	Thr	Asp	Arg	Ser	Gly	Phe	Pro	Arg	Tyr	Asn	Arg
			245						250					255	
Asp	Ala	Asn	Val	Ser	Gly	Thr	Leu	Val	Ser	Ser	Ser	Thr	Leu	Glu	Lys
			260					265					270		



Lys Ile Glu Asp Leu Glu Lys Glu Val Val Thr Glu Arg Gln Glu Asn  
           275                          280                          285  
 Leu Arg Leu Val Arg Leu Met Gln Asp Lys Glu Glu Met Ile Gly Lys  
           290                          295                          300  
 Leu Lys Glu Glu Ile Asp Leu Leu Asn Arg Asp Leu Asp Asp Ile Glu  
 305                          310                          315                          320  
 Asp Glu Asn Glu Gln Leu Lys Gln Glu Asn Lys Thr Leu Leu Lys Val  
                           325                          330                          335  
 Val Gly Gln Leu Thr Arg  
                           340

<210> 119  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Met Ala Gln Ser Leu Ala Leu Ser Leu Leu Ile Leu Val Leu Ala Phe  
   1                          5                          10                          15  
 Gly Ile Pro Arg Thr Gln Gly Ser Asp Gly Gly Ala Gln Asp Cys Cys  
           20                          25                          30  
 Leu Lys Tyr Ser Gln Arg Lys Ile Pro Ala Lys Val Val Arg Ser Tyr  
           35                          40                          45  
 Arg Lys Gln Glu Pro Ser Leu Gly Cys Ser Ile Pro Ala Ile Leu Phe  
           50                          55                          60  
 Leu Pro Arg Lys Arg Ser Gln Ala Glu Leu Cys Ala Asp Pro Lys Glu  
 65                          70                          75                          80  
 Leu Trp Val Gln Gln Leu Met Gln His Leu Asp Lys Thr Pro Ser Pro  
                           85                          90                          95  
 Gln Lys Pro Ala Gln Gly Cys Arg Lys Asp Arg Gly Ala Ser Lys Thr  
           100                          105                          110  
 Gly Lys Lys Gly Lys Gly Ser Lys Gly Cys Lys Arg Thr Glu Arg Ser  
           115                          120                          125  
 Gln Thr Pro Lys Gly Pro  
           130

<210> 120  
 <211> 766  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 120  
 Met Lys Tyr Cys Lys Phe Cys Cys Lys Ala Val Thr Gly Val Lys Leu  
   1                          5                          10                          15  
 Ile His Val Pro Lys Cys Ala Ile Lys Arg Lys Leu Trp Glu Gln Ser  
           20                          25                          30  
 Leu Gly Cys Ser Leu Gly Glu Asn Ser Gln Ile Cys Asp Thr His Phe  
           35                          40                          45  
 Asn Asp Ser Gln Trp Lys Ala Ala Pro Ala Lys Gly Gln Thr Phe Lys  
           50                          55                          60  
 Arg Arg Arg Leu Asn Ala Asp Ala Val Pro Ser Lys Val Ile Glu Pro  
 65                          70                          75                          80  
 Glu Pro Glu Lys Ile Lys Glu Gly Tyr Thr Ser Gly Ser Thr Gln Thr  
           85                          90                          95  
 Glu Ser Cys Ser Leu Phe Asn Glu Asn Lys Ser Leu Arg Glu Lys Ile

			100					105					110		
Arg	Thr	Leu	Glu	Tyr	Glu	Met	Arg	Arg	Leu	Glu	Gln	Gln	Leu	Arg	Glu
		115					120					125			
Ser	Gln	Gln	Leu	Glu	Glu	Ser	Leu	Arg	Lys	Ile	Phe	Thr	Asp	Thr	Gln
	130					135					140				
Ile	Arg	Ile	Leu	Lys	Asn	Gly	Gly	Gln	Arg	Ala	Thr	Phe	Asn	Ser	Asp
145					150					155					160
Asp	Ile	Ser	Thr	Ala	Ile	Cys	Leu	His	Thr	Ala	Gly	Pro	Arg	Ala	Tyr
				165					170					175	
Asn	His	Leu	Tyr	Lys	Lys	Gly	Phe	Pro	Leu	Pro	Ser	Arg	Thr	Thr	Leu
			180					185					190		
Tyr	Arg	Trp	Leu	Ser	Asp	Val	Asp	Ile	Lys	Arg	Gly	Cys	Leu	Asp	Val
		195					200					205			
Val	Ile	Asp	Leu	Met	Asp	Ser	Asp	Gly	Val	Asp	Asp	Ala	Asp	Lys	Leu
	210					215					220				
Cys	Val	Leu	Ala	Phe	Asp	Glu	Met	Lys	Val	Ala	Ala	Ala	Phe	Glu	Tyr
225					230					235					240
Asp	Ser	Ser	Ala	Asp	Ile	Val	Tyr	Glu	Pro	Ser	Asp	Tyr	Val	Gln	Leu
				245					250					255	
Ala	Ile	Val	Arg	Gly	Leu	Lys	Lys	Ser	Trp	Lys	Gln	Pro	Val	Phe	Phe
			260					265					270		
Asp	Phe	Asn	Thr	Arg	Met	Asp	Pro	Asp	Thr	Leu	Asn	Asn	Ile	Leu	Arg
		275					280					285			
Lys	Leu	His	Arg	Lys	Gly	Tyr	Leu	Val	Val	Ala	Ile	Val	Ser	Asp	Leu
	290					295					300				
Gly	Thr	Gly	Asn	Gln	Lys	Leu	Trp	Thr	Glu	Leu	Gly	Ile	Ser	Glu	Ser
305					310					315					320
Lys	Thr	Trp	Phe	Ser	His	Pro	Ala	Asp	Asp	His	Leu	Lys	Ile	Phe	Val
				325					330					335	
Phe	Ser	Asp	Thr	Pro	His	Leu	Ile	Lys	Leu	Val	Arg	Asn	His	Tyr	Val
			340					345					350		
Asp	Ser	Gly	Leu	Thr	Ile	Asn	Gly	Lys	Lys	Leu	Thr	Lys	Lys	Thr	Ile
		355					360					365			
Gln	Glu	Ala	Leu	His	Leu	Cys	Asn	Lys	Ser	Asp	Leu	Ser	Ile	Leu	Phe
	370					375					380				
Lys	Ile	Asn	Glu	Asn	His	Ile	Asn	Val	Arg	Ser	Leu	Ala	Lys	Gln	Lys
385					390					395					400
Val	Lys	Leu	Ala	Thr	Gln	Leu	Phe	Ser	Asn	Thr	Thr	Ala	Ser	Ser	Ile
				405					410					415	
Arg	Arg	Cys	Tyr	Ser	Leu	Gly	Tyr	Asp	Ile	Glu	Asn	Ala	Thr	Glu	Thr
			420					425					430		
Ala	Asp	Phe	Lys	Leu	Met	Asn	Asp	Trp	Phe	Asp	Ile	Phe	Asn	Ser	
		435					440					445			
Lys	Leu	Ser	Thr	Ser	Asn	Cys</									



1	5	10	15
Cys His Tyr Gly Val Leu Thr Cys Gly Ser Cys Lys Val Phe Phe Lys			
20	25	30	
Arg Ala Val Glu Gly Gln His Asn Tyr Leu Cys Ala Gly Arg Asn Asp			
35	40	45	
Cys Ile Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro Ala Cys Arg Tyr			
50	55	60	
Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys			
65	70	75	80
Lys			

<210> 123  
 <211> 89  
 <212> PRT  
 <213> Homo sapiens

<400> 123
Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Lys Asn Arg Tyr Asp Lys
1 5 10 15
Asp Lys Pro Val Ser Phe His Lys Phe Pro Leu Thr Arg Pro Ser Leu
20 25 30
Cys Lys Glu Trp Glu Ala Ala Val Arg Arg Lys Asn Phe Lys Pro Thr
35 40 45
Lys Tyr Ser Ser Ile Cys Ser Glu His Phe Thr Pro Asp Cys Phe Lys
50 55 60
Arg Glu Cys Asn Asn Lys Leu Leu Lys Glu Asn Ala Val Pro Thr Ile
65 70 75 80
Phe Leu Cys Thr Glu Pro His Asp Lys
85

<210> 124  
 <211> 85  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 124
Met Lys Tyr Cys Lys Phe Cys Cys Lys Ala Val Thr Gly Val Lys Leu
1 5 10 15
Ile His Val Pro Lys Cys Ala Ile Lys Arg Lys Leu Trp Glu Gln Ser
20 25 30
Leu Gly Cys Ser Leu Gly Glu Asn Ser Gln Ile Cys Asp Thr His Phe
35 40 45
Asn Asp Ser Gln Trp Lys Ala Ala Pro Ala Lys Gly Gln Thr Phe Lys
50 55 60
Arg Arg Arg Leu Asn Ala Asp Ala Val Pro Ser Lys Val Ile Glu Pro
65 70 75 80
Glu Pro Glu Lys Ile
85

<210> 125  
 <211> 58  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> THAP Domain consensus

<221> UNSURE

<222> 2-3, 7, 9, 13-17, 19, 21-23, 25-26, 28, 35, 38-39, 41, 45-50, 52, 55-56

<223> Xaa = any of the twenty amino acids

<400> 125

```
Met Val Xaa Xaa Cys Ser Xaa Tyr Xaa Cys Lys Asn Xaa Xaa Xaa Xaa
 1          5          10          15
Xaa Lys Xaa Val Xaa Xaa Xaa Lys Xaa Xaa Leu Xaa Arg Pro Ser Leu
      20          25          30
Cys Lys Xaa Trp Glu Xaa Xaa Val Xaa Arg Lys Asn Xaa Xaa Xaa Xaa
      35          40          45
Xaa Xaa Ser Xaa Ile Cys Xaa Xaa His Phe
      50          55
```

<210> 126

<211> 89

<212> PRT

<213> Homo sapiens

<400> 126

```
Met Val Gln Ser Cys Ser Ala Tyr Gly Cys Lys Asn Arg Tyr Asp Lys
 1          5          10          15
Asp Lys Pro Val Ser Phe His Lys Phe Pro Leu Thr Arg Pro Ser Leu
      20          25          30
Cys Lys Glu Trp Glu Ala Ala Val Arg Arg Lys Asn Phe Lys Pro Thr
      35          40          45
Lys Tyr Ser Ser Ile Cys Ser Glu His Phe Thr Pro Asp Cys Phe Lys
      50          55          60
Arg Glu Cys Asn Asn Lys Leu Leu Lys Glu Asn Ala Val Pro Thr Ile
      65          70          75          80
Phe Leu Cys Thr Glu Pro His Asp Lys
      85
```

<210> 127

<211> 89

<212> PRT

<213> Homo sapiens

<400> 127

```
Met Pro Lys Ser Cys Ala Ala Arg Gln Cys Cys Asn Arg Tyr Ser Ser
 1          5          10          15
Arg Arg Lys Gln Leu Thr Phe His Arg Phe Pro Phe Ser Arg Pro Glu
      20          25          30
Leu Leu Lys Glu Trp Val Leu Asn Ile Gly Arg Gly Asn Phe Lys Pro
      35          40          45
Lys Gln His Thr Val Ile Cys Ser Glu His Phe Arg Pro Glu Cys Phe
      50          55          60
Ser Ala Phe Gly Asn Arg Lys Asn Leu Lys His Asn Ala Val Pro Thr
      65          70          75          80
Val Phe Ala Phe Gln Asp Pro Thr Gln
```

<210> 128  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 128  
 Met Pro Arg Tyr Cys Ala Ala Ile Cys Cys Lys Asn Arg Arg Gly Arg  
 1 5 10 15  
 Asn Asn Lys Asp Arg Lys Leu Ser Phe Tyr Pro Phe Pro Leu His Asp  
 20 25 30  
 Lys Glu Arg Leu Glu Lys Trp Leu Lys Asn Met Lys Arg Asp Ser Trp  
 35 40 45  
 Val Pro Ser Lys Tyr Gln Phe Leu Cys Ser Asp His Phe Thr Pro Asp  
 50 55 60  
 Ser Leu Asp Ile Arg Trp Gly Ile Arg Tyr Leu Lys Gln Thr Ala Val  
 65 70 75 80  
 Pro Thr Ile Phe Ser Leu Pro Glu Asp Asn  
 85 90

<210> 129  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Met Pro Lys Tyr Cys Arg Ala Pro Asn Cys Ser Asn Thr Ala Gly Arg  
 1 5 10 15  
 Leu Gly Ala Asp Asn Arg Pro Val Ser Phe Tyr Lys Phe Pro Leu Lys  
 20 25 30  
 Asp Gly Pro Arg Leu Gln Ala Trp Leu Gln His Met Gly Cys Glu His  
 35 40 45  
 Trp Val Pro Ser Cys His Gln His Leu Cys Ser Glu His Phe Thr Pro  
 50 55 60  
 Ser Cys Phe Gln Trp Arg Trp Gly Val Arg Tyr Leu Arg Pro Asp Ala  
 65 70 75 80  
 Val Pro Ser Ile Phe Ser Arg Gly Pro Pro Ala Lys  
 85 90

<210> 130  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 130  
 Met Val Ile Cys Cys Ala Ala Val Asn Cys Ser Asn Arg Gln Gly Lys  
 1 5 10 15  
 Gly Glu Lys Arg Ala Val Ser Phe His Arg Phe Pro Leu Lys Asp Ser  
 20 25 30  
 Lys Arg Leu Ile Gln Trp Leu Lys Ala Val Gln Arg Asp Asn Trp Thr  
 35 40 45  
 Pro Thr Lys Tyr Ser Phe Leu Cys Ser Glu His Phe Thr Lys Asp Ser  
 50 55 60

Phe	Ser	Lys	Arg	Leu	Glu	Asp	Gln	His	Arg	Leu	Leu	Lys	Pro	Thr	Ala
65					70					75					80
Val	Pro	Ser	Ile	Phe	His	Leu	Thr	Glu	Lys						
				85					90						

<210> 131  
 <211> 89  
 <212> PRT  
 <213> Homo sapiens

<400> 131

Met	Pro	Thr	Asn	Cys	Ala	Ala	Ala	Gly	Cys	Ala	Thr	Thr	Tyr	Asn	Lys
1				5					10					15	
His	Ile	Asn	Ile	Ser	Phe	His	Arg	Phe	Pro	Leu	Asp	Pro	Lys	Arg	Arg
			20					25					30		
Lys	Glu	Trp	Val	Arg	Leu	Val	Arg	Arg	Lys	Asn	Phe	Val	Pro	Gly	Lys
		35					40					45			
His	Thr	Phe	Leu	Cys	Ser	Lys	His	Phe	Glu	Ala	Ser	Cys	Phe	Asp	Leu
	50					55					60				
Thr	Gly	Gln	Thr	Arg	Arg	Leu	Lys	Met	Asp	Ala	Val	Pro	Thr	Ile	Phe
65					70					75					80
Asp	Phe	Cys	Thr	His	Ile	Lys	Ser	Met							
				85											

<210> 132  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 132

Met	Pro	Asn	Phe	Cys	Ala	Ala	Pro	Asn	Cys	Thr	Arg	Lys	Ser	Thr	Gln
1				5					10					15	
Ser	Asp	Leu	Ala	Phe	Phe	Arg	Phe	Pro	Arg	Asp	Pro	Ala	Arg	Cys	Gln
			20					25					30		
Lys	Trp	Val	Glu	Asn	Cys	Arg	Arg	Ala	Asp	Leu	Glu	Asp	Lys	Thr	Pro
		35					40					45			
Asp	Gln	Leu	Asn	Lys	His	Tyr	Arg	Leu	Cys	Ala	Lys	His	Phe	Glu	Thr
	50					55					60				
Ser	Met	Ile	Cys	Arg	Thr	Ser	Pro	Tyr	Arg	Thr	Val	Leu	Arg	Asp	Asn
65					70					75					80
Ala	Ile	Pro	Thr	Ile	Phe	Asp	Leu	Thr	Ser						
				85					90						

<210> 133  
 <211> 97  
 <212> PRT  
 <213> Homo sapiens

<400> 133

Met	Pro	Arg	His	Cys	Ser	Ala	Ala	Gly	Cys	Cys	Thr	Arg	Asp	Thr	Arg
1				5					10					15	
Glu	Thr	Arg	Asn	Arg	Gly	Ile	Ser	Phe	His	Arg	Leu	Pro	Lys	Lys	Asp
			20					25					30		
Asn	Pro	Arg	Arg	Gly	Leu	Trp	Leu	Ala	Asn	Cys	Gln	Arg	Leu	Asp	Pro





Met	Pro	Gly	Phe	Thr	Cys	Cys	Val	Pro	Gly	Cys	Tyr	Asn	Asn	Ser	His
1				5					10					15	
Arg	Asp	Lys	Ala	Leu	His	Phe	Tyr	Thr	Phe	Pro	Lys	Asp	Ala	Glu	Leu
			20					25					30		
Arg	Arg	Leu	Trp	Leu	Lys	Asn	Val	Ser	Arg	Ala	Gly	Val	Ser	Gly	Cys
		35					40					45			
Phe	Ser	Thr	Phe	Gln	Pro	Thr	Thr	Gly	His	Arg	Leu	Cys	Ser	Val	His
	50					55					60				
Phe	Gln	Gly	Gly	Arg	Lys	Thr	Tyr	Thr	Val	Arg	Val	Pro	Thr	Ile	Phe
65					70					75					80
Pro	Leu	Arg	Gly	Val	Asn	Glu	Arg	Lys	Val						
				85					90						

<210> 137  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

Met	Pro	Ala	Arg	Cys	Val	Ala	Ala	His	Cys	Gly	Asn	Thr	Thr	Lys	Ser
1				5					10					15	
Gly	Lys	Ser	Leu	Phe	Arg	Phe	Pro	Lys	Asp	Arg	Ala	Val	Arg	Leu	Leu
			20					25					30		
Trp	Asp	Arg	Phe	Val	Arg	Gly	Cys	Arg	Ala	Asp	Trp	Tyr	Gly	Gly	Asn
		35				40						45			
Asp	Arg	Ser	Val	Ile	Cys	Ser	Asp	His	Phe	Ala	Pro	Ala	Cys	Phe	Asp
	50					55					60				
Val	Ser	Ser	Val	Ile	Gln	Lys	Asn	Leu	Arg	Phe	Ser	Gln	Arg	Leu	Arg
65					70					75					80
Leu	Val	Ala	Gly	Ala	Val	Pro	Thr	Leu	His						
				85					90						

<210> 138  
 <211> 85  
 <212> PRT  
 <213> Drosophila melanogaster

Met	Lys	Tyr	Cys	Lys	Phe	Cys	Cys	Lys	Ala	Val	Thr	Gly	Val	Lys	Leu
1				5					10					15	
Ile	His	Val	Pro	Lys	Cys	Ala	Ile	Lys	Arg	Lys	Leu	Trp	Glu	Gln	Ser
			20					25					30		
Leu	Gly	Cys	Ser	Leu	Gly	Glu	Asn	Ser	Gln	Ile	Cys	Asp	Thr	His	Phe
		35				40						45			
Asn	Asp	Ser	Gln	Trp	Lys	Ala	Ala	Pro	Ala	Lys	Gly	Gln	Thr	Phe	Lys
	50					55					60				
Arg	Arg	Arg	Leu	Asn	Ala	Asp	Ala	Val	Pro	Ser	Lys	Val	Ile	Glu	Pro
65					70					75					80
Glu	Pro	Glu	Lys	Ile											
				85											

<210> 139  
 <211> 63  
 <212> PRT

<213> Artificial Sequence

<220>

<223> THAP Domain consensus

<221> UNSURE

<222> 4-5, 7, 9-10, 12, 15-20, 22, 24, 32, 35, 38-39, 42-43, 46-47, 49-51, 53-61, 63

<223> Xaa = any of the twenty amino acids

<400> 139

Met	Pro	Lys	Xaa	Xaa	Cys	Xaa	Ala	Xaa	Xaa	Cys	Xaa	Asn	Arg	Xaa	Xaa
1				5				10						15	
Xaa	Xaa	Xaa	Xaa	Lys	Xaa	Lys	Xaa	Val	Ser	Phe	His	Lys	Phe	Pro	Xaa
			20				25						30		
His	Asp	Xaa	His	Asp	Xaa	Xaa	Arg	Arg	Xaa	Xaa	Trp	Val	Xaa	Xaa	Val
	35						40					45			
Xaa	Xaa	Xaa	Arg	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Trp	Xaa	
	50				55							60			

<210> 140

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> DR-5-related sequence

<400> 140

gggcatacta ctggcaa

17

<210> 141

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> DR-5-related sequence

<400> 141

gggcaaactg tgggcat

17

<210> 142

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> DR-5-related sequence

<400> 142

gggcatacta ctggcaa

17

<210> 143

<211> 17

<212> DNA

<213> Artificial Sequence  
 <220>  
 <223> DR-5-related sequence  
 <400> 143  
 gggcaaacta ctggcaa 17  
 <210> 144  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> DR-5-related sequence  
 <400> 144  
 gggccagttc gttgcaa 17  
 <210> 145  
 <211> 16  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> DR-5-related sequence  
 <400> 145  
 gggcatgtac tggcaa 16  
 <210> 146  
 <211> 16  
 <212> DNA  
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 <223> DR-5-related sequence  
 <400> 146  
 gggcaactgt gggcaa 16  
 <210> 147  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> DR-5-related sequence  
 <400> 147  
 gggcaacact actggcaa 18  
 <210> 148  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> DR-5-related sequence

<400> 148  
 gggcaaagta ctggcaa 17

<210> 149  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> DR-5 consensus sequence

<221> unsure  
 <222> 7-11  
 <223> n = any of the four nucleotides

<400> 149  
 gggcaannnn ntggcaa 17

<210> 150  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> ER-11-related sequence

<400> 150  
 ttgccagtac taagtgtggg caa 23

<210> 151  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> ER-11-related sequence

<400> 151  
 ctgccagtac atagtgtggg caa 23

<210> 152  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> ER-11-related sequence

<400> 152  
 ttgccagtac taagtgtggg caa 23

<210> 153  
 <211> 23  
 <212> DNA

<213> Artificial Sequence  
 <220>  
 <223> ER-11-related sequence  
 <400> 153  
 ctgccagtag atactgtggg caa 23  
 <210> 154  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> ER-11-related sequence  
 <400> 154  
 ttgccagtag ttaggtgtgg gcga 24  
 <210> 155  
 <211> 23  
 <212> DNA  
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 <400> 155  
 ttgccagtag ttagtgtggg caa 23  
 <210> 156  
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 <223> ER-11-related sequence  
 <400> 156  
 ttgccagtag ctactaaggg caa 23  
 <210> 157  
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 <212> DNA  
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 <223> ER-11-related sequence  
 <400> 157  
 ttgccagtag ttagtgtggg cag 23  
 <210> 158  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> ER-11-related sequence

<400> 158  
 ctgccagtag taagtgtggg cag 23

<210> 159  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> ER-11 consensus sequence

<221> unsure  
 <222> 7-17  
 <223> n = any of the four nucleotides

<400> 159  
 ttgccannnn nnnnnnnggg caa 23

<210> 160  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 160  
 atggtgcagt cctgctccgc ctacggctgc aagaaccgct acgacaagga caagcccgtt 60  
 tctttccaca agtttcctct tactcgacct agtctttgta aagaatggga ggcagctgtc 120  
 agaagaaaaa actttaaacc caccaagtat agcagtattt gttcagagca ctttactcca 180  
 gactgcttta agagagagtg caacaacaag ttactgaaag agaatgctgt gcccaacaata 240  
 tttctttgta ctgagccaca tgacaagaaa gaagatcttc tggagccaca ggaacagctt 300  
 cccccacctc ctttaccgcc tcctgtttcc cagggtgatg ctgctattgg attactaatg 360  
 ccgcctcttc agaccctgt taatctctca gttttctgtg accacaacta tactgtggag 420  
 gatacaatgc accagcggaa aaggattcat cagctagaac agcaagttga aaaactcaga 480  
 aagaagctca agaccgcaca gcagcgatgc agaaggcaag aacggcagct tgaaaaatta 540  
 aaggaggttg ttcacttcca gaaagagaaa gacgacgtat cagaaagagg ttatgtgatt 600  
 ctaccaaagt actactttga aatagttgaa gtaccagcat aa 642

<210> 161  
 <211> 687  
 <212> DNA  
 <213> Homo sapiens

<400> 161  
 atgccgacca attgcgctgc ggcgggctgt gccactacct acaacaagca cattaacatc 60  
 agcttccaca ggtttccttt ggatcctaaa agaagaaaag aatgggttcg cctggttagg 120  
 cgcaaaaatt ttgtgccagg aaaacacact tttctttgtt caaagcactt tgaagcctcc 180  
 tgttttgacc taacaggaca aactcgacga cttaaaatgg atgctgttcc aaccattttt 240  
 gatttttgta cccatataaa gtctatgaaa ctcaagtcaa ggaatctttt gaagaaaaac 300  
 aacagttgtt ctccagctgg accatctaatt ttaaaatcaa acattagtag tcagcaagta 360  
 ctacttgaac acagctatgc ctttaggaat cctatggagg caaaaaagag gatcattaaa 420  
 ctggaaaaag aaatagcaag ctttaagaaga aaaatgaaaa cttgcctaca aaaggaacgc 480  
 agagcaactc gaagatggat caaagccacg tgtttggtta agaatttaga agcaaatagt 540  
 gtattaccta aaggtacatc agaacacatg ttaccaactg ccttaagcag tcttcctttg 600  
 gaagatttta agatccttga acaagatcaa caagataaaa cactgctaag tctaaatcta 660  
 aaacagacca agagtacctt catttaa 687

<210> 162  
 <211> 720  
 <212> DNA  
 <213> Homo sapiens

<400> 162  
 atgccgaagt cgtgcgcggc ccggcagtg tgcaccgct acagcagccg caggaagcag 60  
 ctcaccttcc accggtttcc gttcagccgc ccggagctgc tgaaggaatg ggtgctgaac 120  
 atcggccggg gcaacttcaa gcccagcag cacacggtca tctgctccga gcacttccgg 180  
 ccagagtgtc tcagcgctt tggaaccgc aagaacctaa agcacaatgc cgtgcccacg 240  
 gtgttcgcct ttcaggaccc cacacagcag gtgagggaga acacagacc tgccagttag 300  
 agaggaaatg ccagctcttc tcagaaagaa aaggtcctcc ctgaggcggg ggccggagag 360  
 gacagtctg ggagaaacat ggacactgca cttgaagagc ttcagttgcc cccaaatgcc 420  
 gaaggccacg taaaacaggt ctgccacgg aggcgcgaag caacagaggc tgttgcccg 480  
 ccgactggcc ctgcaggcct gagaaggacc cccaacaagc agccatctga tcacagctat 540  
 gcccttttgg acttagattc cctgaagaaa aaactcttcc tctactctga ggaaaatgaa 600  
 aagctccgga agcgcttgca ggcccagagg ctggtgatgc gaaggatgtc cagccgcctc 660  
 cgtgcttgca aagggcacca gggactccag gccagacttg ggccagagca gcagagctga 720

<210> 163  
 <211> 1734  
 <212> DNA  
 <213> Homo sapiens

<400> 163  
 atggtgatct gctgtgcggc cgtgaactgc tccaaccggc agggaaaggc cgagaagcgc 60  
 gccgtctcct tccacaggtt cccctaaag gactcaaaac gtctaatacca atggttaaaa 120  
 gctgttcaga gggataactg gactccact aagtattcat ttctctgtag tgagcatttc 180  
 accaaagaca gcttctccaa gaggttgag gaccagcatc gcctgctgaa gccacggcc 240  
 gtgcatcca tcttcacct gaccgagaag aagagggggg ctggaggcca tggccgcacc 300  
 cggagaaaag atgccagcaa ggccacaggg ggtgtgaggg gacactcgag tgccgccacc 360  
 ggcagaggag ctgcagggtg gtcaccgtcc tcgagtggaa acccgatggc caagccagag 420  
 tcccgcaggt tgaagcaagc tgctctgcaa ggtgaagcca caccagggc ggcccaggag 480  
 gccgccagcc aggagcaggc ccagcaagct ctggaacgga ctccaggaga tggactggcc 540  
 accatggtgg caggcagtc gggaaaagca gaagcgtctg ccacagatgc tggcgatgag 600  
 agcgccactt cctccatcga agggggcggt acagataaga gtggcatttc tatggatgac 660  
 tttacgcccc caggatctgg ggcgtgcaa tttatcggt cacttcattc gtacagtttc 720  
 tcctctaagc acaccgaga aaggccatct gtcccccgag agccattga ccgcaagagg 780  
 ctgaagaaag atgtggaacc aagctgcagt gggagcagcc tgggaccga caagggcctg 840  
 gccagagcc ctcccagctc atcacttacc gcgacaccgc agaagccttc ccagagcccc 900  
 tctgcccctc ctgccagct caccctaaag ccagccacgg aagccgtgca gagcgagcac 960  
 agcgacgcca gcccctgtc catcaacgag gtcactctgt cggcgctcagg ggcctgcaag 1020  
 ctcatcgact cactgcactc ctactgcttc tctcccggc agaacaagag ccaggtgtgc 1080  
 tgctgctggc agcaggtgga gaagaagaac ggcgagctga agagcctgcg gcagagggtc 1140  
 agccgctccg acagccaggt gcggaagcta caggagaagc tggatgagct gaggagagt 1200  
 agcgctccct atccaagtag cctgctgtcg ccagcccgag agcccccaa gatgaaccca 1260  
 gtggtggagc cactgtcctg gatgctgggc acctggctgt cggaccacc tggagccggg 1320  
 acctaccca cactgcagcc cttccagtag ctggaggagg ttcacatctc ccacgtgggc 1380  
 cagcccatgc tgaacttctc gttcaactcc tccaccggg acacgcgcaa gccgatgcac 1440  
 agagagtgtg gcttcattcg cctcaagccc gacaccaaca aggtggcctt tgtcagcgcc 1500  
 cagaacacag gcgtggtgga agtgaggagg ggcgaggtga acgggcagga gctgtgcatc 1560  
 gcatccact ccacgcagc gatctccttc gccaaaggag cccacgtaga gcagatcacc 1620  
 cggaagtcca ggctgaattc tgaaggcaaa cttgagcaga cggctctccat ggcaaccacg 1680  
 acacagccaa tgactcagca tcttcacgtc acctacaaga aggtgacccc gtaa 1734

<210> 164  
 <211> 1188  
 <212> DNA  
 <213> Homo sapiens

<400> 164  
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 cggaagctga gtttttatcc atttcctcta catgacaaaag aaagactgga aaagtgggta 120  
 aagaatatga agcgagattc atgggttccc agtaaatacc agtttctatg tagtgaccat 180  
 tttactcctg actctcttga catcagatgg ggtattcgat atttaaaaca aactgcagtt 240  
 ccaacaatat tttctttgcc tgaagacaat cagggaaaag acccttctaa aaaaaaatcc 300  
 cagaagaaaa acttggaaga tgagaaagaa gtatgcccaa aagccaagtc agaagaatca 360  
 tttgtattaa atgagacaaa gaaaaatata gttaacacag atgtgccccca tcaacatcca 420  
 gaattacttc attcatcttc cttggtaaag ccaccagctc ccaaaacagg aagtatacaa 480  
 aataacatgt taactcttaa tctagttaaa caacatactg ggaaaccaga atctaccttg 540  
 gaaacatcag ttaaccaaga tacaggtaga ggtgggtttc acacatgttt tgagaatcta 600  
 aattctacaa ctattacttt gacaacttca aattcagaaa gtattcatca atctttggaa 660  
 actcaagaag ttcttgaagt aactaccagt catcttgcta atccaaactt tacaagtaat 720  
 tccatggaaa taaagtcagc acaggaaaat ccattcttat tcagcacaat taatcaaaaca 780  
 gttgaagaat taaacacaaa taaagaatct gttattgcca tttttgtacc tgctgaaaaat 840  
 tctaaaccct cagttaattc ttttatatct gcacaaaaag aaaccacgga aatggaagac 900  
 acagacattg aagactcctt gtataaggat gtagactatg ggacagaagt tttacaaatc 960  
 gaacattctt actgcagaca agatataaat aaggaacatc tttggcagaa agtctctaag 1020  
 ctacattcaa agataactct tctagagtta aaagagcaac aaactctagg tagattgaag 1080  
 tctttggaag ctcttataag gcagctaaag caggaaaact ggctatctga agaaaacgtc 1140  
 aagattatag aaaaccattt tacaacatat gaagtcacta tgatatag 1188

<210> 165  
 <211> 669  
 <212> DNA  
 <213> Homo sapiens

<400> 165  
 atggtgaaat gctgctccgc cattggatgt gcttctcgct gcttgccaaa ttcgaagtta 60  
 aaaggactga catttcacgt attccccaca gatgaaaaca tcaaaaggaa atgggtatta 120  
 gcaatgaaaa gacttgatgt gaatgcagcc ggcatttggg agcctaaaaa aggagatgtg 180  
 ttgtgttcga ggcactttta gaagacagat tttgacagaa gtgctccaaa tattaaactg 240  
 aaacctggag tcataccttc tatctttgat tctccatatt acctacaggg gaaaagagaa 300  
 aaacttcatt gtagaaaaaa cttcaccttc aaaaccgttc cagccactaa ctacaatcac 360  
 catcttggtg gtgcttcctc atgtattgaa gaattccaat cccagttcat ttttgaacat 420  
 agctacagtg taatggacag tccaaagaaa cttaagcata aattagatca tgtgatcggc 480  
 gagctagagg atacaaagga aagtctacgg aatgttttag accgagaaaa acgttttcag 540  
 aaatcattga ggaagacaat caggaatta aaggatgaat gtctgatcag ccaagaaaca 600  
 gcaaatagac tggacacttt ctgttgggac tgttgtcagg agagcataga acaggactat 660  
 atttcatga 669

<210> 166  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 atgcccgcgtc actgctccgc cgccggctgc tgcacacggg acacgcgcga gacgcgcaac 60  
 cgccgcatct ccttccacag acttcccaag aaggacaacc cgaggcgagg cttgtggctg 120  
 gccaaactgcc agcggctgga cccagcggc cagggcctgt gggaccggc atccgagtac 180  
 atctacttct gctccaaaca ctttgaggag gactgctttg agctggtggg aatcagtgga 240  
 tatcacaggc taaaggaggg ggcagtcctc accatatttg agtctttctc caagttgcgc 300



cggacaacca	agaccaaag	acacagttac	ccacctggcc	cccctgaagt	cagccggctc	360
agacgatgca	ggaagcgctg	ctccgagggc	cgagggccca	caactccatt	ttctccacct	420
ccacctgctg	atgtcacctg	ctttcctgtg	gaagaggcct	cagcacctgc	cactttgccg	480
gcctccccag	ctgggaggct	ggagcctggc	cttagcagcc	ccttttcaga	cctactgggc	540
cccttggtg	cccaggcaga	tgaagcaggc	tgcagcgccc	agccttcacc	agagcggcag	600
ccctccctc	tgaaccacg	gccagtctcc	ccctcagcgt	atatgctgcg	cctgccccca	660
cccgccggag	cctacatcca	gaatgaacac	agctaccagg	tgggcagcgc	cttactctgg	720
aagcggcgag	ccgaggcagc	ccttgatgcc	cttgacaagg	cccagcgcca	gctgcaggcc	780
tgcaagcggc	gggagcagcg	gctgcggttg	agactgacca	agctgcagca	ggagcgggca	840
cgggagaagc	gggcacaggc	agatgcccgc	cagactctga	aggagcatgt	gcaggacttt	900
gccatgcagc	tgagcagcag	catggcctga				930

<210> 167

<211> 825

<212> DNA

<213> Homo sapiens

<400> 167

atgccccagt	actgcagggc	gccgaactgc	tccaacactg	cgggcccgcct	gggtgcagac	60
aaccgccttg	tgagcttcta	caagttccca	ctgaaggatg	gtccccggct	gcaggcctgg	120
ctgcagcaca	tgggtgtga	gcactgggtg	cccagctgcc	accagcactt	gtgcagcgag	180
cacttcacac	cctcctgctt	ccagtggcgc	tggggtgtgc	gctacctgcg	gcctgatgca	240
gtgccctcca	tcttctcccg	gggaccacct	gccaaagatc	agcggaggac	ccgaagcacc	300
cagaagccag	tctgcgcgcc	gcctccccta	cagaagaata	caccctgcc	ccagagccct	360
gccatcccag	tctctggccc	agtgcgccta	gtggtgctgg	gccccacatc	ggggagcccc	420
aagactgtgg	ccaccatgct	cctgaccccc	ctggccccctg	cgccaactcc	tgagcgggtca	480
caacctgaag	tccttgccca	acaggcccag	accgggctgg	gcccagtgtc	gggagcactg	540
caacgcgggg	tgcgagggtc	gcaacgggtg	caggagcggc	accaggcgca	gctgcaggcc	600
ctggaacggc	tggcacagca	gctacacggg	gagagcctgc	tggcacgggc	acgccggggt	660
ctgcagcgcc	tgacaacagc	ccagaccctt	ggacctgagg	aatcccaaac	cttcaccatc	720
atctgtggag	ggcctgacat	agccatggtc	cttgcccagg	accctgcacc	tgccacagtg	780
gatgccaaagc	cggagctcct	ggacactcgg	atccccagtg	cataa		825

<210> 168

<211> 3171

<212> DNA

<213> Homo sapiens

<400> 168

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cgcggcctct	ccttccacca	atttccaact	gataccatac	agcgtcctaaa	atggatcagg	120
gctgttaatc	gtgtggaccc	cagaagcaaa	aagatttgga	ttccaggacc	aggtgctata	180
ctgtgttcca	aacattttca	agaaagtgac	tttgagtcac	atggcataag	aagaaagctg	240
aaaaaaggag	ctgtgccttc	tgtttctcta	tacaagattc	ctcaagggtg	acatcttaaa	300
ggtaaagcaa	gacaaaaaat	cctaaaacaa	cctcttccag	acaattctca	agaagttgct	360
actgaggacc	ataactatag	tttaaagaca	cctttgacga	taggtgcaga	gaaactggct	420
gaggtgcaac	aaatgttaca	agtgtccaaa	aaaagactta	tctccgtaaa	gaactacagg	480
atgatcaaga	agagaaagg	tttacgatta	attgatgcac	ttgtagaaga	gaaactactt	540
tctgaagaaa	cagagtgtct	gctacgagct	caatttttcag	atttttaagt	ggagtatat	600
aattggagag	aaacagatga	gtactccgca	gaaatgaaac	aatttgcatg	tacactctac	660
ttgtgcagta	gcaaagtcta	tgattatgta	agaaagattc	ttaagctgcc	tcattcttcc	720
atcctcagaa	cgtgggttatc	caaagtccaa	cccagtcag	gtttcaacag	caacattttt	780
tcttttcttc	aacgaagagt	agagaatgga	gatcagctct	atcaatactg	ttcattgtta	840
ataaaaagta	tacctctcaa	gcaacagctt	cagtgggatc	ctagcagtca	cagtttgtag	900
gggtttatgg	actttgggtc	tggaaaactt	gatgctgatg	aaacgccact	tgcttcagaa	960
actgttttgt	taatggcagt	gggtattttt	ggccattgga	gaacacctct	tggttatttt	1020
tttgtaaaaa	gagcatctgg	atatttgtag	gctcagctgc	ttcgtctgac	tattggtaaa	1080

ctgagtgaca	taggaatcac	agttctggct	gttacatctg	atgccacagc	acatagtgtt	1140
cagatggcaa	aagcattggg	gatacatatt	gatggagacg	acatgaaatg	tacatttcag	1200
catccttcat	cttctagtca	acagattgca	tacttctttg	actcttgcca	cttgctaaga	1260
ttaataagaa	atgcatttca	gaattttcaa	agcattcagt	ttattaatgg	tatagcacat	1320
tggcagcacc	tcgtggagtt	agtagcactg	gaggaacagg	aattatcaaa	tatggaaaaga	1380
ataccaagta	cacttgcaaa	tttgaaaaat	catgtactga	aagtgaatag	tgccacccaa	1440
ctcttttagtg	agagtgtagc	cagtgcatta	gaatatttgt	tatccttaga	cctgccacct	1500
tttcaaaact	gtattggtac	catccatttt	ttacgtttta	ttaacaatct	gtttgacatc	1560
tttaatagta	ggaactgtta	tggaaaagga	cttaaagggc	ctctgttgcc	tgaaacttac	1620
agtaaaataa	accacgtgtt	aattgaagcc	aagactattd	ttgttacatt	atctgacact	1680
agcaataatc	aaataattaa	aggtaaagca	aaactaggat	tcctgggatt	tttgctcaat	1740
gctgagagct	taaaatggct	ctacccaaat	tatgttttcc	caaaggctat	gccttttctt	1800
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<211> 774

<212> DNA

<213> Homo sapiens

<400> 169

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<210> 171  
 <211> 2286  
 <212> DNA  
 <213> Homo sapiens

<400> 171  
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<210> 172  
 <211> 633  
 <212> DNA  
 <213> Mus musculus

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aaaaggaaaa acttcaagcc caccaagtac agcagcatct gctcggagca cttcaccccg 180
gactgcttta agagggagtg caacaacaag ctactgaagg agaacgctgt gccacaata 240
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tctccttcac ccccgcttc ccaggttgat gctgctattg ggctgcta at gcccctctg 360
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aagacggccc agcagcgggt cggcgggcag gagaggcagc tcgagaagct caaggagtc 540
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gactactttg aaattgttga agttccagca tga
633

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<210> 173  
 <211> 654  
 <212> DNA  
 <213> Mus musculus

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<400> 173
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cgcaaaaatt ttgtgccagg aaaacacact tttctttgct caaagcactt tgaagcctcc 180
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654

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<210> 174  
 <211> 657  
 <212> DNA  
 <213> Mus musculus

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<400> 174
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atcgccggg ctgacttcaa gcctaagcag cacacagtca tctgctcgga acacttcaga 180
cccagtgct tcagcgcctt tgggaaccgc aagaacctga aacacaatgc tgtgcccacg 240

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<210> 175

<211> 558

<212> DNA

<213> Mus musculus

<400> 175

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<210> 176

<211> 1719

<212> DNA

<213> Homo sapiens

<400> 176

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<210> 177  
 <211> 878  
 <212> DNA  
 <213> Homo sapiens

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 <211> 34  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Interferon gamma homology motif of THAP1

<400> 178  
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 20 25 30  
 Gln Arg

<210> 179  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Nuclear localization sequence of THAP1

<400> 179  
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 Lys Leu Lys Thr  
 20

<210> 180  
 <211> 38  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Consensus sequence for PAR4 binding domain of THAP

<221> UNSURE  
 <222> 3-16, 19, 23, 25-35  
 <223> Xaa = any of the twenty amino acids

<221> VARIANT  
 <222> 37  
 <223> Xaa = Arg or Lys

<400> 180  
 Leu Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1 5 10 15  
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 20 25 30  
 Xaa Xaa Xaa Gln Arg Glu  
 35

<210> 181  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 181  
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<210> 182  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<220>

<400> 182  
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 35 40 45  
 Ala Glu Leu Cys Ala Asp Pro Lys Glu Leu Trp Val Gln Gln Leu Met  
 50 55 60  
 Gln His Leu Asp Lys Thr Pro Ser Pro Gln Lys Pro Ala Gln Gly Cys  
 65 70 75 80  
 Arg Lys Asp Arg Gly Ala Ser Lys Thr Gly Lys Lys Gly Lys Gly Ser  
 85 90 95

Lys Gly Cys Lys Arg Thr Glu Arg Ser Gln Thr Pro Lys Gly Pro  
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<210> 183  
<211> 37  
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<220>  
<223> Primer

<400> 183  
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<210> 184  
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<220>  
<223> Primer

<400> 184  
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<210> 185  
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<220>  
<223> Primer

<400> 185  
ccgaattcag gatggtgcag tctgtctccg cct 33

<210> 186  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer

<400> 186  
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<210> 187  
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<220>  
<223> Primer

<400> 187



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<400> 189  
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<210> 190  
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 <222> 3-14, 17, 21, 23-33, 35  
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<400> 245  
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<210> 246  
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<400> 246  
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<210> 247  
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 aagtgcctga ggaccggaag gatggtgcag tctgtctccg cctacggctg caagaaccgc 240  
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<212> DNA

<213> Homo sapiens

<400> 249

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<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

<400> 251

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<211> 2291

<212> DNA

<213> Homo sapiens

<400> 252

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<211> 1242

<212> DNA

<213> Homo sapiens

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 <213> Homo sapiens

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<210> 258  
 <211> 2283  
 <212> DNA  
 <213> Homo sapiens

<400> 258  
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<210> 259

<211> 986

<212> DNA

<213> Mus musculus

<400> 259

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<210> 260

<211> 1515

<212> DNA

<213> Mus musculus

<400> 260

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aaaagtaggt tgtaaaataa tctgaaatag tattttgaat gtgaaatacc tttgaaactc 1440
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<210> 261

<211> 1120

<212> DNA

<213> Mus musculus

<400> 261

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gctgttgagg gagtgggtgc tcaacatcgg ccgggctgac ttcaagccta agcagcacac 180
agtcactctg tcggaacact tcagaccga gtgcttcagc gcctttggga accgcaagaa 240
cctgaaacac aatgctgtgc ccacggtgtt cgcttttcag aaccacacag aggtctgccc 300
tgaggtgggg gctggtgggg acagctcagg gaggaacatg gacaccacac tggagaact 360
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<210> 262  
 <211> 558  
 <212> DNA  
 <213> Mus musculus

<400> 262  
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 atctttgaat gtccatatca cttacaggag aaaagagaaa aacttcactg tagaaaaaac 180  
 ttctttctca aaacccttcc catcaccac catggccgcc agcttggttg tgcctcctgc 240  
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 aagaagctta agcataagct agaccgtgtg atcatcgagc tggagaatac caaggaaagc 360  
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 gaactaaagg atgaaagtct gatcagccag gaaacagcca atagtctggg tgctttctgt 480  
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 cttcatctgc agttgaca 558

<210> 263  
 <211> 37  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Consensus sequence for PAR4 binding domain of THAP  
 <221> UNSURE  
 <222> 3-15, 18, 22, 24-34, 36  
 <223> Xaa = any of the twenty amino acids

<400> 263  
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 1 5 10 15  
 Arg Xaa Arg Arg Gln Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Xaa Xaa Gln Xaa Glu  
 35

<210> 264  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 264  
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<210> 265  
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 <212> DNA  
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<220>  
 <223> Primer

<400> 265  
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 <211> 22  
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 <223> Primer  
  
 <400> 266  
 ccgctcgagg atacaatgca cc 22  
  
 <210> 267  
 <211> 33  
 <212> DNA  
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 <400> 267  
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 <211> 86  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 268  
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 <223> Primer  
  
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 <212> DNA  
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 <220>  
 <223> Primer  
  
 <400> 270

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21

<210> 271  
<211> 134  
<212> PRT  
<213> Human

<400> 271  
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20 25 30  
Leu Lys Tyr Ser Gln Arg Lys Ile Pro Ala Lys Val Val Arg Ser Tyr  
35 40 45  
Arg Lys Gln Glu Pro Ser Leu Gly Cys Ser Ile Pro Ala Ile Leu Phe  
50 55 60  
Leu Pro Arg Lys Arg Ser Gln Ala Glu Leu Cys Ala Asp Pro Lys Glu  
65 70 75 80  
Leu Trp Val Gln Gln Leu Met Gln His Leu Asp Lys Thr Pro Ser Pro  
85 90 95  
Gln Lys Pro Ala Gln Gly Cys Arg Lys Asp Arg Gly Ala Ser Lys Thr  
100 105 110  
Gly Lys Lys Gly Lys Gly Ser Lys Gly Cys Lys Arg Thr Glu Arg Ser  
115 120 125  
Gln Thr Pro Lys Gly Pro  
130

<210> 272  
<211> 878  
<212> DNA  
<213> Human

<400> 272  
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gagctatgtg cagacccaaa ggagctcttg gtgcagcagc tgatgcagca tctggacaag 360  
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<210> 273  
<211> 98  
<212> PRT  
<213> Human

<400> 273  
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			20					25					30				
Val	Thr	Gln	Lys	Pro	Ile	Pro	Gly	Tyr	Ile	Val	Arg	Asn	Phe	His	Tyr		
		35					40					45					
Leu	Leu	Ile	Lys	Asp	Gly	Cys	Arg	Val	Pro	Ala	Val	Val	Phe	Thr	Thr		
	50					55					60						
Leu	Arg	Gly	Arg	Gln	Leu	Cys	Ala	Pro	Pro	Asp	Gln	Pro	Trp	Val	Glu		
65				70						75					80		
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			85					90						95			
Ser	Ser																

<210> 274  
 <211> 684  
 <212> DNA  
 <213> Human

<400> 274

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gaattattac	ctaacctggg	gaaccgagga	ccagaaggaa	ggaccaggct	tccagctcct	540
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<210> 275  
 <211> 125  
 <212> PRT  
 <213> Human

<400> 275

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		20					25					30			
Cys	Ile	Ser	Thr	Asn	Gln	Gly	Thr	Ile	His	Leu	Gln	Ser	Leu	Lys	Asp
	35					40				45					
Leu	Lys	Gln	Phe	Ala	Pro	Ser	Pro	Ser	Cys	Glu	Lys	Ile	Glu	Ile	Ile
	50					55				60					
Ala	Thr	Leu	Lys	Asn	Gly	Val	Gln	Thr	Cys	Leu	Asn	Pro	Asp	Ser	Ala
65				70					75					80	
Asp	Val	Lys	Glu	Leu	Ile	Lys	Lys	Trp	Glu	Lys	Gln	Val	Ser	Gln	Lys
			85					90					95		
Lys	Lys	Gln	Lys	Asn	Gly	Lys	Lys	His	Gln	Lys	Lys	Lys	Val	Leu	Lys
		100						105					110		
Val	Arg	Lys	Ser	Gln	Arg	Ser	Arg	Gln	Lys	Lys	Thr	Thr			
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<210> 276  
 <211> 2545  
 <212> DNA  
 <213> Human

<400> 276  
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 aagtgggaga aacaggctcag ccaaaagaaa aagcaaaaga atgggaaaaa acatcaaaaa 360  
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<210> 277  
 <211> 98  
 <212> PRT  
 <213> Human

<400> 277

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Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu  
35 40 45  
Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala  
50 55 60  
Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys  
65 70 75 80  
Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Met Ser Lys Arg  
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Ser Pro

<210> 278  
<211> 1172  
<212> DNA  
<213> Human

<400> 278  
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attcaaggag tacctctctc tagaaccgta cgctgtacct gcatcagcat tagtaatcaa 180  
cctgttaatc caaggtcttt agaaaaactt gaaattattc ctgcaagcca attttgtcca 240  
cgtgttgaga tcattgctac aatgaaaaag aagggtgaga agagatgtct gaatccagaa 300  
tcgaaggcca tcaagaattt actgaaagca gttagcaagg aaatgtctaa aagatctcct 360  
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<210> 279  
<211> 166  
<212> PRT  
<213> Human

<400> 279  
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Asn Leu Lys Lys Tyr Phe Asn Ala Gly His Ser Asp Val Ala Asp Asn  
35 40 45  
Gly Thr Leu Phe Leu Gly Ile Leu Lys Asn Trp Lys Glu Glu Ser Asp  
50 55 60

Arg	Lys	Ile	Met	Gln	Ser	Gln	Ile	Val	Ser	Phe	Tyr	Phe	Lys	Leu	Phe
65					70					75					80
Lys	Asn	Phe	Lys	Asp	Asp	Gln	Ser	Ile	Gln	Lys	Ser	Val	Glu	Thr	Ile
			85						90					95	
Lys	Glu	Asp	Met	Asn	Val	Lys	Phe	Phe	Asn	Ser	Asn	Lys	Lys	Lys	Arg
			100					105					110		
Asp	Asp	Phe	Glu	Lys	Leu	Thr	Asn	Tyr	Ser	Val	Thr	Asp	Leu	Asn	Val
		115					120					125			
Gln	Arg	Lys	Ala	Ile	His	Glu	Leu	Ile	Gln	Val	Met	Ala	Glu	Leu	Ser
	130					135					140				
Pro	Ala	Ala	Lys	Thr	Gly	Lys	Arg	Lys	Arg	Ser	Gln	Met	Leu	Phe	Gln
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Gly	Arg	Arg	Ala	Ser	Gln										
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<210> 280  
 <211> 1193  
 <212> DNA  
 <213> Human

<400> 280

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taatagcaac	ttttgtgtaa	tgaaaatgaa	tatctattaa	tatatgtatt	atttataatt	780
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<210> 281  
 <211> 34  
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<220>  
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<400> 281  
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<210> 282  
 <211> 34  
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<213> Artificial Sequence

<220>  
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<400> 282  
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<210> 283  
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<220>  
<223> Primer

<400> 283  
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<210> 284  
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<400> 284  
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<210> 285  
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<400> 288  
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<210> 289  
<211> 91  
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<213> Human

<400> 289  
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35 40 45  
Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe  
50 55 60  
Val Thr Arg Lys Asn Arg Gln Val Cys Ala Asn Pro Glu Lys Lys Trp  
65 70 75 80  
Val Arg Glu Tyr Ile Asn Ser Leu Glu Met Ser  
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<210> 290  
<211> 1237  
<212> DNA  
<213> Human

<400> 290  
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<210> 291

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

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<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 292

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